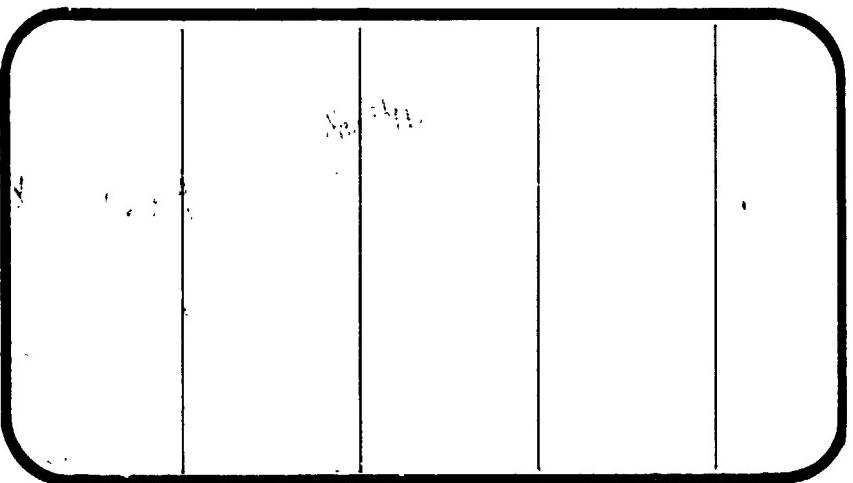




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(NASA-CP-141517) RESULTS OF HEAT TRANSFER  
TESTS OF AN 0.0175-SCALE SPACE SHUTTLE  
VEHICLE MODEL 22 OTS IN THE NASA-AMES  
3.5-FOOT HYPERSONIC WIND TUNNEL (IH3),  
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SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT

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RESULTS OF HEAT TRANSFER TESTS  
OF AN 0.0175-SCALE SPACE SHUTTLE  
VEHICLE MODEL 22 OTS IN THE NASA-AMES  
3.5-FOOT HYPERSONIC WIND TUNNEL (IH3)

VOLUME IV

By

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Prepared under NASA Contract Number NAS9-13247

By

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Chrysler Corporation Space Division  
New Orleans, La. 70189

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National Aeronautics and Space Administration  
Houston, Texas

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NASA Series Number: IH3  
Model Number: 22 OTS  
Test Dates: October 31 to November 9, 1973

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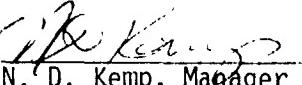
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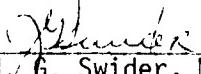
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RESULTS OF HEAT TRANSFER TESTS  
OF AN 0.0175-SCALE SPACE SHUTTLE  
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3.5-FOOT HYPERSONIC WIND TUNNEL (IH3)

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ABSTRACT

Heat-transfer data for the 0.0175-scale Space Shuttle Vehicle 3 are presented in this data report. Interference heating effects were investigated by a model build-up technique of Orbiter alone, tank alone, second, and first stage configurations.

The test program was conducted in the NASA-Ames 3.5-Foot Hypersonic Wind Tunnel at Mach 5.3 for nominal free-stream Reynolds number per foot values of  $1.5 \times 10^6$  and  $5.0 \times 10^6$ .

This report is presented in four volumes. The contents of the volumes are as follows:

VOLUME I	PLOTTED EXTERNAL TANK DATA
VOLUME II	PLOTTED SRB DATA
VOLUME III	PLOTTED ORBITER DATA
VOLUME IV	TABULATED SOURCE DATA

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(D): HI/HU vs. PHI	(J): HI/HU vs. S		
(E): H/HREF vs. X/C	(K): H/HREF vs. Z/BV		
(F): H/HREF vs. 2Y/B	(L): HI/HU vs. Z/BV		

## INTRODUCTION

The experimental investigation documented in this report was performed to obtain aerodynamic heat-transfer rate data on the space shuttle vehicle 3 first and second stage configurations. A component build-up of orbiter alone, tank alone, orbiter plus tank, and fully mated launch configuration was utilized to investigate component interference effects.

The test program was conducted in the NASA-Ames 3.5-Foot Hypersonic Wind Tunnel at Mach 5.3 and nominal free-stream Reynolds number per foot values of  $1.5 \times 10^6$  and  $5.0 \times 10^6$ . The model angles of attack were  $0^\circ$ ,  $-3^\circ$ ,  $-5^\circ$  and  $20^\circ$  (SRB alone) and angles of yaw were  $0^\circ$  and  $-5^\circ$ .

## NOMENCLATURE

<u>Symbol</u>	<u>Plot Symbol</u>	<u>Definition</u>
b		thickness of model skin
B		span length
C		specific heat of model skin material or OMS crease
c		chord length
$C_0, C_1, C_2$		constants in curve fit for C over model wall temperature range
$c_p$		specific heat of air stream (perfect gas value)
CHAN	CHAN	recording-system channel
$H_{aw}$	HAW	adiabatic wall enthalpy
$H_t$	HT	free-stream total enthalpy
$H_0$		average of free-stream total enthalpy values of all tunnel runs incorporated into an aero dataset
$H_w$	HW	enthalpy based on model wall temperature for given T/C location
h	H	heat-transfer coefficient at model wall for given T/C location
$h_{ref}$	HREF	stagnation-point heat-transfer coefficient for reference sphere
$h/h_{ref}$	H/HREF	ratio of model heat-transfer coefficient to heat-transfer coefficient of reference sphere for $H_{aw}/H_t = X.XXX$
	HI/HU	interference to undisturbed heat transfer coefficient ratio
IML		inner module line
L	Length	model reference length

## NOMENCLATURE (Continued)

<u>Symbol</u>	<u>Plot Symbol</u>	<u>Definition</u>
$M_\infty$	MACH	free-stream Mach number
$P_t$	PT	free-stream total pressure
	PO	average of free-stream total pressure values of all tunnel runs incorporated into an aero dataset
$\dot{q}$	Q	heat-transfer rate at model wall for given T/C location
$\dot{q}_s$	QS	stagnation-point heat-transfer rate for reference sphere at initial time
$R_s$	RS	reference sphere radius at model scale equivalent to 0.305 m (1 ft) for full-scale vehicle
$Re_\infty/\text{ft.}$		free-stream Reynolds number per foot
	RN/L	average of free-stream Reynolds number values (per foot) of all tunnel runs incorporated into an aero dataset
$Re_\infty,L$		free-stream Reynolds number based on model reference length, L
	S	assumed chordwise location (for Clusters Band C) - see Figure 2
St	ST	Stanton number based on free-stream flow conditions and the model heat-transfer coefficient for $H_{aw}/H_t = X.XXX$
T		temperature
$T_t$	TT	free-stream total temperature
	TO	average of free-stream total temperature values of all tunnel runs incorporated into an aero dataset

## NOMENCLATURE (Continued)

<u>Symbol</u>	<u>Plot Symbol</u>	<u>Definition</u>
$T_w$	TW	model wall temperature for given T/C location
T/C	T/C	thermocouple
t		time
$t_i$	TIME	initial time (before model insertion into flow) extrapolated from $f(T_w)$ vs time
$u, v$		velocity
W		density of model skin material
X		axial distance measured from nose
	X/C	chordwise location, fraction of local chord
	X/L	longitudinal location, fraction of body length
Y		spanwise distance from centerline
	2Y/B	spanwise location, fraction of semi-span
Z		water plane distance
	Z/BV	spanwise location on vertical tail, fraction of exposed span
$\theta$		tank radial position measured clockwise looking forward, 0 degrees at bottom centerline
$\alpha$	ALPHA	angle of attack, degrees
$\beta$	BETA	angle of sideslip, degrees
$\mu$		viscosity of air
$\rho$		density of air
$\phi$		Orbiter radial position measured clockwise looking forward. 0 degrees at bottom centerline

## NOMENCLATURE (Concluded)

<u>Symbol</u>	<u>Plot Symbol</u>	<u>Definition</u>
$\psi$		SRB radial position measured clockwise looking forward. 0 degrees at bottom centerline
<u>SUBSCRIPTS</u>		
<sub>aw</sub>		adiabatic wall
<sub>i</sub>		initial value before model insertion into tunnel flow
<sub>0</sub>		Orbiter
<sub>PG</sub>		perfect gas (calorically and thermally perfect gas)
<sub>s</sub>		reference sphere
<sub>SRB</sub>		SRB
<sub>t</sub>		free-stream total condition
<sub>T</sub>		tank
<sub>V</sub>		vertical tail
<sub>w</sub>		wall
<sub><math>\infty</math></sub>		free-stream

## REMARKS

Tunnel blockage was suspected during the first stage (mated)  $\alpha = -5^\circ$  runs, but could not be confirmed due to inconclusive shadowgraph data. Therefore, additional data were taken at  $\alpha = -3^\circ$ . Both  $\alpha = -3^\circ$  and  $-5^\circ$  data are presented in this report; however, the  $\alpha = -5^\circ$  data are questionable.

Near the end of the test program the number of test runs used to obtain a complete mapping of the mated-vehicle heating rates was reduced from seven to five to conserve test time. The data acquisition capacity is 75 thermocouple channels per run. This reduced the number of recorded thermocouples from 525 to 375 for these runs (runs with T/C hook-up numbers 12 and 13).

A post-test analysis and dimensional check of the model were performed on the orbiter to investigate suspected incorrect data from wing leading edge clusters B and C. As a result of this investigation, the thermocouple locations and skin thicknesses presented in Table IV and figure 2a were found to be incorrect for clusters B and C. Figure 2b presents the correct locations and thicknesses. The data presented in the plots and tabulated listings reflect the pretest locations and skin thicknesses and should be scaled accordingly. Data reports for other tests of this model are also in error due to the clusters on the wing leading edge. These test data should be corrected for the test data publications of tests OH4B, IH20, and OH6.

## CONFIGURATIONS INVESTIGATED

The 22-OTS model is a 0.0175-scale replica of the vehicle three configuration Rockwell International Space Shuttle orbiter, tank, and solid rocket boosters. The model is a thin-skin thermocouple model instrumented with 527 30-gauge iron-constantan thermocouples. The structural areas of the model were constructed of 15-5PH stainless steel with instrumented areas of 15-5PH and 17-7PH stainless steel.

Provisions have been made to test elevon deflections of -40°, 0°, +5, and +10°; body flap deflections of 0° and +10°; and rudder flare of 0° and 40°. For this ascent test, all control surfaces were tested at 0° deflection.

The configurations tested are described below with the component definitions given in table III.

### Symbol

ORB	B <sub>17</sub> C <sub>7</sub> M <sub>4</sub> F <sub>5</sub> W <sub>103</sub> E <sub>22</sub> V <sub>7</sub> R <sub>5</sub>	Orbiter
ET	T <sub>10</sub>	external tank
SRB	S <sub>8</sub>	solid rocket booster
OTS	B <sub>17</sub> C <sub>7</sub> M <sub>4</sub> F <sub>5</sub> W <sub>103</sub> E <sub>22</sub> V <sub>7</sub> R <sub>5</sub> T <sub>10</sub> S <sub>8</sub>	mated vehicle
TRIPS		.050" steel spheres spot welded to .005" shim stock band 1/4 inch wide. Center-line displacement between trips was 3 diameters

## TEST FACILITY DESCRIPTION

The NASA-Ames 3.5-Foot Hypersonic Wind Tunnel is a closed-circuit, blowdown-type tunnel capable of operating at nominal Mach numbers of 5, 7, and 10 at pressures to 1800 psia and temperatures to 3400°R for run times to four minutes. The major components of the facility include a gas storage system where the test gas is stored at 3000 psi, a storage heater filled with aluminum-oxide pebbles capable of heating the test gas to 3400°R, axisymmetric contoured nozzles with exit diameters of 42 inches for generating the desired Mach number, and a 900,000 ft<sup>3</sup> vacuum storage system which operates to pressures of 0.3 psia. The test section itself is an open-jet type enclosed within a chamber approximately 12-feet in diameter and 40-feet in length, arranged transversally to the flow direction.

A model support system is provided that can pitch models through an angle-of-attack range of -20 to +20 degrees, in a vertical plane, about a fixed point of rotation on the tunnel centerline. This rotation point is adjustable from 1 to 5 feet from the nozzle exit plane. The model normally is out of the test stream (strut centerline 37-inches from tunnel centerline) until the tunnel test conditions are established after which it is inserted. Insertion time is adjustable to as little as 1/2 second and models may be inserted at any strut angle.

A high-speed, analog-to-digital data acquisition system is used to record test data on magnetic tape. The present system is equipped to measure and record the outputs from 80 transducers in addition to 20 channels of tunnel parameters.

## TEST PROCEDURES

The data acquisition capability was 75 recorded thermocouples per run. Since there were 525 T/C's selected for mated launch-configuration testing, seven runs were necessary for a complete mated heating distribution. Cannon plugs with 15 thermocouples for full data acquisition capability were used at the model. A five plug junction (connector) box was constructed to mate the model plugs to the facility's 150°F reference box terminal posts. Most model changes were, therefore, simple plug changes between runs.

Due to the complexity of the mated configuration sting arrangement, oil-flow visualization techniques were employed to confirm that there were no sting-interference effects.

Shadowgraphs were taken for each run. Sting-effect shadowgraphs were also obtained for selected runs.

## DATA REDUCTION

All test data were reduced at the NASA/Ames Research Center using the data reduction techniques outlined below. The thermocouple data were reduced using the one-dimensional, thin-wall equation:

$$\dot{q} = WCb \frac{dT_w}{dt} = h (H_{aw} - H_w) \equiv hH_t \quad \left( \frac{H_{aw}}{H_t} - \frac{H_w}{H_t} \right) \quad (1)$$

which neglects heat-conduction losses.

Assuming that  $W$  and  $h$  are constant and

$$C = C_0 + C_1 T_w + C_2 T_w^2 \text{ for } T_w \text{ ranges} \quad (2)$$

the integration of equation (1) for  $t = t_i$  to  $t$  and  $T_w = T_{w_i}$  to  $T_w$  yields the linear equation:

$$f(T_w) = - \ln \left( \frac{T'_{aw} - T_w}{T'_{aw} - T_{w_i}} \right) - \left[ \frac{C_1}{C'_{aw}} + \frac{C_2}{C'_{aw}} \left( T'_{aw} + \frac{T_w + T_{w_i}}{2} \right) \right]$$

$$(T_w - T_{w_i}) = \frac{hc_p}{WC'_{awb}} (t - t_i) \quad (3)$$

where it is defined that:

$$T'_{aw} \equiv \frac{H_{aw}}{c_p} = \frac{H_{aw}}{H_t} \quad \frac{H_t}{c_p} \geq (T_{aw})_{PG} \quad (4)$$

$$C'_{aw} \equiv C_0 + C_1 T'_{aw} + C_2 T'_{aw}^2 \quad (5)$$

# specific heat at adiabatic wall temperature

The form of Eq (3) is  $f(T_w) = mt + b$  where  $m$  is the slope and  $b$  is the intercept for a straight line if heat-conduction errors are negligible. Thus, deviations from a straight line can indicate heat-conduction effects.

## DATA REDUCTION (Continued)

The slope,  $m$ , of  $f(T_w)$  vs  $t$  from Eq (3) is computed by a least-squares, straight-line fit over a finite time interval (approx. 1 sec.) beginning when the model reaches uniform tunnel flow. The value of the heat-transfer coefficient,  $h$ , is then determined from:

$$h = \frac{WC_{aw}^1 b}{c_p} m \quad (6)$$

Using this value of  $h$ , the heat-transfer rate is evaluated at the initial time,  $t_i$ , when the model is isothermal at the initial wall enthalpy,  $H_{wi}$ :

$$\dot{q} = \dot{q}_i = h (H_{aw} - H_{wi}) \equiv h H_t \left( \frac{H_{aw}}{H_t} - \frac{H_{wi}}{H_t} \right) \quad (7)$$

where  $H_{aw}/H_t$  is the same value used to evaluate  $h$ . The resultant value of  $\dot{q}$  is independent of the value of  $H_{aw}/H_t$  used for both the  $h$  and  $\dot{q}$  evaluations.

The reference sphere heating is also evaluated at the initial wall enthalpy by the method of Fay and Riddell (ref. 2):

$$\dot{q}_s = h_{ref} (H_t - H_{wi}) \equiv h_s H_t \left( 1.0 - \frac{H_{wi}}{H_t} \right) \quad (8)$$

The model-to-sphere ratio of heat-transfer coefficients is then determined from Eqs. (7) and (8) as

$$\frac{h}{h_{ref}} = \frac{\dot{q}_i}{\dot{q}_s} \left[ \frac{1.0 - H_{wi}/H_t}{H_{aw}/H_t - H_{wi}/H_t} \right] \quad (9)$$

## DATA REDUCTION (Concluded)

where  $\dot{q}_i$  is constant for all values of  $H_{aw}/H_t$ .

To determine  $h/h_{ref}$  for various values of  $H_{aw}/H_t$ , the particular value of  $H_{aw}/H_t$  is substituted into Eq. (9).

The Stanton number is defined as

$$St \equiv \frac{h}{\rho u} = \frac{\dot{q}_i}{\rho u (H_{aw} - H_{w_i})} \quad (10)$$

where for free-stream conditions,  $\rho u = \rho_\infty V_\infty$ .

The calculations of the model heating, reference sphere heating, and Reynolds number included the corrections of NACA report 1135 (ref. 3) for calorically imperfect thermally perfect air. Keyes' equation for viscosity (see ref. 4) was also used for the sphere heating and Reynolds number computations:

$$\mu = \frac{0.0232 \times 10^{-6} T^{0.5}}{1 + \frac{220}{T} \times 10^{-9/T}} \quad (11)$$

where the units for  $T$  and  $\mu$  are °R and lb-sec/ft, respectively.

## REFERENCES

1. Foster, J. F.: Pre Test Information for Testing of the 22-OTS 0.017-scale Thinskin Thermocouple Model in the Ames Research Center 3.5-Ft Hypersonic Wind Tunnel, October 1, 1973 Rockwell International Report No. SD73-SH-0259.
2. Fay, J. A.; and Riddell, F. R.: Theory of Stagnation Point Heat Transfer in Dissociated Air. J. Aeron. Sci., Vol. 25, No. 1, Feb. 1958, pp. 73-85.
3. Ames Research Staff: Equations, Tables, and Charts for Compressible Flow. NACA Rept. 1135, 1953.
4. Bertram, Mitchel H.: Comment on "Viscosity of Air." J. Spacecraft Rockets, Vol. 4, No. 2, Feb. 1967, pp. 287-288.

TABLE I.

## REPRODUCIBILITY OF THE PAGE IS POOR



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**TABLE II. (Concluded)**

TEST : ARC 3.5 178 - IH3		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE : NOVEMBER 2, 1973		
DATA SET IDENTIFIER	CONFIGURATION	SCHD.	CONTROL DEFLECTION	No. OF RUNS	THERMOCOUPLE SCHEDULE (T/C), X (SEE TABLE XIII)									
*		$\alpha$	$\beta$	RNL	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	X <sub>11</sub>	X <sub>12</sub>	X <sub>13</sub>
REIC 19	OTS	-5.0	5.0		70									
REIC 20	OTS	-3.0	5.0			71	72	73						
					74									
												78	79	76 77

**KEY TO 4TH CHARACTER OF DATASET NAME**

4th Character	Location of Thermocouple	4th Character
S	SRB Separation Nozzle	H
N	External Tank	I
T	Orbiter - Bottom C <sub>L</sub>	J
B	Orbiter - Top C <sub>L</sub>	K
A	Windows	L
C	Orbiter Bottom Surface	M
D	Orbiter Side	Q
E	Wing Upper Crease	P
F	Wing Bottom	V
G		X

4th Character	Location of Thermocouple	4th Character
	Clusters B & C (Wing Leading Edge)	
	Wing Top	
	OMS Bottom Crease	
	OMS Side Surface	
	OMS Top Surface	
	OMS WL 474	
	Leading Edge Rolled Down 30°	
	Orbiter Fuselage	
	Vertical Tail	
	Solid Booster (overlaps with "S" data but has thermocouple schedule needed for comparison with undisturbed data to compute HI/HU)	

1	7	13	19	25	31	37	43	49	55	61	67	75 76
<b>H/I/H&amp;E/F</b>												
<b><math>\alpha</math> OR <math>\beta</math> SCHEDULE</b>												
<b>COEFFICIENTS</b>												
<b>SCHEDULE</b>												
<b>IDVAR (1) IDVAR (2) NOV</b>												

NASA-MFSC-MAF

TABLE III. - COMPONENT DIMENSIONAL DATA

MODEL COMPONENT: BODY - B17

GENERAL DESCRIPTION: Fuselage, 3 configuration, lightweight orbiter per  
Rockwell lines drawing No. VL70-000139

MODEL SCALE: 0.0175

DRAWING NO.: VL70-000139

DIMENSIONS:

	FULL SCALE	MODEL SCALE
Length - In.	1290.3	22.58025
Max. width - In.	267.6	4.6830
Max. depth - In.	244.5	4.27875
Fineness Ratio	4.82175	4.82175
Area - ft <sup>2</sup>	386.67	0.11842
Max. Cross-sectional		
Planform		
Wetted		
Base		

TABLE III. - COMPONENT DIMENSIONAL DATA - Continued.

MODEL COMPONENT: CANOPY - C7

GENERAL DESCRIPTION: Configuration 3 per Rockwell Lines VL70-000139

Insufficient information to complete dimensional data at this time.

MODEL SCALE: 0.0175

DRAWING NUMBER: VL70-000139

DIMENSIONS:

Length ( $X_0 = 433$  to  $X_0 = 670$ ) - in FS

	FULL SCALE	MODEL SCALE
Length ( $X_0 = 433$ to $X_0 = 670$ ) - in FS	237	4.148

Max. Width

Max. Depth ( $Z_0 = 0$  to  $Z_0 = 501$ ) in FS

Fineness ratio

Area -  $\text{ft}^2$

Max. Cross-sectional

Planform

Wetted

Base

TABLE III. - COMPONENT DIMENSIONAL DATA - Continued.

MODEL COMPONENT: ELEVON- E<sub>22</sub>GENERAL DESCRIPTION: 3 configuration per W103 Rockwell Lines Drawing  
VL70-000139 data for (1) of (2) sides.

SCALE MODEL: 0.0175

DRAWING NUMBER: VL70-000139

## DIMENSIONS:

	FULL SCALE	MODEL SCALE
Area - ft <sup>2</sup>	205.52	0.06294
Span (equivalent) - In.	353.34	6.18345
Inb'd equivalent chord	114.78	2.00865
Outb'd equivalent chord	55.00	0.96250
Ratio movable surface chord/ total surface chord		
At inb'd equiv. chord	.208	.208
At outb'd equiv. chord	.400	.400
Sweep-back angles, degrees		
Leading edge	0.00	0.00
Trailing edge	- 10.24	- 10.24
Hingeline	0.00	0.00
Area Moment (Normal to hingeline) - ft <sup>3</sup> (Product of Area Moment)	1548.07	0.00829

TABLE III. - COMPONENT DIMENSIONAL DATA - Continued.

MODEL COMPONENT: BODY FLAP - F5

GENERAL DESCRIPTION: 3 Configuration per Rockwell Lines VL70-000139

MODEL SCALE: 0.0175

DRAWING NUMBER: VL70-000139

**DIMENSIONS:**

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length - In.	<u>84.70</u>	<u>1.48225</u>
Max. width - In.	<u>267.6</u>	<u>4.6830</u>
Max. Depth	_____	_____
Fineness Ratio	_____	_____
Area - ft <sup>2</sup>	_____	_____
Max Cross-sectional	_____	_____
Planform	<u>142.5195</u>	<u>0.04365</u>
Wetted	_____	_____
Base	<u>38.0958</u>	<u>0.01167</u>

TABLE III. - COMPONENT DIMENSIONAL DATA - Continued.

MODEL COMPONENT: OMS POD - M<sub>4</sub>GENERAL DESCRIPTION: Orbital maneuvering system pods located on the orbiter aft fuselage.

MODEL SCALE: 0.0175

DRAWING NUMBER: VL70-000139

## DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length - In.	<u>346.0</u>	<u>6.0550</u>
Max. Width - In.	<u>108.0</u>	<u>1.890</u>
Max. Depth - In.	<u>113.0</u>	<u>113.0</u>
Fineness Ratio	—	—
Area - ft <sup>2</sup>	—	—
Max cross sectional	—	—
Planform	—	—
Wetted	—	—
Base	—	—

## Q of OMS Pod

$$WP = 463.9 \text{ In. FS}; WP 400 + 63.9 = 463.9$$

$$BP = 80.0 \text{ In. FS}$$

$$\text{LENGTH: } 1214.0 \text{ to } 1560.0 = 346.0 \text{ In. FS}$$

NOTE: M<sub>4</sub> is identical to M<sub>3</sub> of 2A configuration,  
except intersection to body.

TABLE III. - COMPONENT DIMENSIONAL DATA - Continued.

MODEL COMPONENT: RUDDER - R<sub>5</sub>GENERAL DESCRIPTION: 2A, 3 and 3A configuration per Rockwell Lines Drawing  
VL70-000095

MODEL SCALE: 0.0175

DRAWING NUMBER: VL70-000139, VL70-000095

## DIMENSIONS:

	FULL SCALE	MODEL SCALE
Area - ft <sup>2</sup>	<u>106.38</u>	<u>0.03258</u>
Span (equivalent) - in.	<u>201.0</u>	<u>3.5175</u>
Inb'd equivalent chord	<u>91.585</u>	<u>1.60274</u>
Outb'd equivalent chord	<u>50.833</u>	<u>0.88958</u>
Ratio movable surface chord/ total surface chord		
At inb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
At outb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
Sweep-back angles, degrees		
Leading edge	<u>34.83</u>	<u>34.83</u>
Trailing edge	<u>26.25</u>	<u>26.25</u>
Hingeline	<u>34.83</u>	<u>34.83</u>
Area Moment (normal to hingeline) - ft <sup>3</sup>	<u>526.13</u>	<u>0.00282</u>
Product of area and mean chord		

TABLE III. - COMPONENT DIMENSIONAL DATA - Continued.

MODEL COMPONENT: BOOSTER SOLID ROCKET MOTOR - S8

GENERAL DESCRIPTION: Booster solid rocket, 3 configuration, body of revolution, data for (1) or (2) sides per Rockwell Lines drawing VL77-000036 and VL72-000088

MODEL SCALE: 0.0175

DRAWING NUMBER: VL72-000088, VL77-000036

DIMENSIONS:	FULL SCALE	MODEL SCALE
Length (Includes nozzle) - In.	<u>1741.0</u>	<u>30.468</u>
Max. Width (Tank dia.) - In.	<u>142.0</u>	<u>2.485</u>
Max. Depth (Aft shroud) - In.	<u>205.0</u>	<u>3.588</u>
Fineness Ratio	<u>8.49268</u>	<u>8.49268</u>
Area - ft <sup>2</sup>		
Max. Cross-sectional	<u>229.21</u>	<u>4.011</u>
Planform		
Wetted		
Base		
WP of BSRM Centerline ( $Z_T$ ) - In.	<u>400.0</u>	<u>7.00</u>
FS of BSRM Nose ( $X_T$ ) - In.	<u>200.0</u>	<u>3.50</u>

TABLE III. - COMPONENT DIMENSIONAL DATA - Continued.

MODEL COMPONENT: EXTERNAL TANK - T10

GENERAL DESCRIPTION: External Oxygen-hydrogen tank, 3 configuration, per  
Rockwell Lines drawing VL78-000041 and VL72-000088

MODEL SCALE: 0.0175

DRAWING NUMBER: VL72-000088, VL78-000041

DIMENSIONS:

	FULL SCALE	MODEL SCALE
Length - In. (Nose @ $X_T = 309$ )	<u>1865</u>	<u>32.63750</u>
Max. width (Dia) - In.	<u>324</u>	<u>5.670</u>
Max. depth	--	--
Fineness Ratio	<u>5.75617</u>	<u>5.75617</u>
Area - $\text{ft}^2$		
Max. Cross-Sectional	<u>572.555</u>	<u>0.17534</u>
Planform		
Wetted		
Base		
WP of Tank Centerline ( $X_T$ ) In.	<u>400.0</u>	<u>7.00</u>

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TABLE III. - COMPONENT DIMENSIONAL DATA - Continued.

MODEL COMPONENT: V<sub>7</sub> (Lightweight Orbiter Configuration)

GENERAL DESCRIPTION: Centerline vertical tail, double-wedge airfoil with rounded leading edge.

NOTE: Same as V<sub>5</sub> but with manipulator housing removed.

MODEL SCALE: 0.0175

DRAWING NUMBER: VL70-000139, VL70-000095

## DIMENSIONS:

## TOTAL DATA

	FULL SCALE	MODEL SCALE
Area (Theo) - ft <sup>2</sup>	425.92	0.13044
Planform		
Span (Theo) - In.	315.72	5.52510
Aspect ratio	1.675	1.675
Rate of taper	0.507	0.507
Taper ratio	0.404	0.404
Sweep-back angles, degrees		
Leading edge	45.000	45.000
Trailing edge	26.249	26.249
0.25 Element line	41.130	41.130
Chords:		
Root (Theo) WP	268.50	4.69875
Tip (Theo) WP	108.47	1.89822
MAC	199.81	3.49667
Fus. Sta. of .25 MAC	1463.50	25.61125
W.P. of .25 MAC	635.522	11.12164
B.L. of .25 MAC	0.00	0.00
Airfoil section:		
Leading wedge angle - deg.	10.000	10.000
Trailing wedge angle - deg.	14.920	14.920
Leading edge radius	2.0	0.0350
Void area - ft <sup>2</sup>	13.17	0.00403
Blanketed area	0.00	0.00

TABLE III. - COMPONENT DIMENSIONAL DATA - Concluded.

MODEL COMPONENT: WING-W 103GENERAL DESCRIPTION: Configuration 3 Orbiter per Lines VL70-000139.NOTE: Same planform as W87, except dihedral at TEScale Model = 0.0175TEST NO.DWG. NO. VL70-000139DIMENSIONS:FULL-SCALEMODEL SCALETOTAL DATAArea (Theo.)  $\text{Ft}^2$ 

Planform

2690.00 0.82381

Span (Theo) In.

936.68 16.39190

Aspect Ratio

2.265 2.265

Rate of Taper

1.177 1.177

Taper Ratio

0.200 0.200

Dihedral Angle, degrees (@ TE of Elevon)

3.500 3.500

Incidence Angle, degrees

3.000 3.000

Aerodynamic Twist, degrees

+3.000 +3.000

Sweep Back Angles, degrees

Leading Edge

45.000 45.000

Trailing Edge

-10.24 -10.24

0.25 Element Line

35.209 35.209

Chords:

Root (Theo) B.P.O.C.

689.24 12.06170

Tip, (Theo) B.P.

137.85 2.41238

MAC

474.81 8.30918

Fus. Sta. of .25 MAC

1136.89 19.83558

W.P. of .25 MAC

299.20 5.2360

B.L. of .25 MAC

182.13 3.18728

EXPOSED DATAArea (Theo)  $\text{Ft}^2$ 

1750.29 0.53664

Span, (Theo) In. BP108

720.68 12.61190

Aspect Ratio

2.058 2.058

Taper Ratio

0.2451 0.2451

Chords

Root BP108

562.40 9.8420

Tip  $b$ 

137.85 2.41238

 $\frac{b}{2}$ 

MAC

393.03 6.8780

Fus. Sta. of .25 MAC

1185.31 20.74292

W.P. of .25 MAC

300.20 5.25350

B.L. of .25 MAC

251.76 2.51580

Airfoil Section (Rockwell Mod NASA)

XXXX-64

Root  $b$ 

0.10 0.10

 $\frac{b}{2}$ Tip  $b$ 

0.12 0.12

 $\frac{b}{2}$ 

Data for (1) or (2) Sides

Leading Edge Cuff  $\text{Ft}^2$ 

120.33 0.03685

Planform Area  $\text{Ft}^2$ 

560.0 9.800

Leading Edge Intersects Fus M. L. @ Sta

1035.0 18.11250

Leading Edge Intersects Wing @ Sta

Table IV. Orbiter T/C Locations  
Model 22-OTS

T/C NO.	$\frac{x}{L}$	FULL SCALE			MODEL SCALE				$\phi$	SKIN THICKNESS	REMARKS
		$x_0$	y	z	FROM NOSE	y	z				
1	0	238.00	0	--	0	0	--	0	.034	BOTTOM ♀	
2	.005	244.45	↑	↑	.113	↑	↑	↑	.035	↑	
3	.010	250.90			.226				.035		
4	.020	263.81			.452				.032		
5	.030	276.71			.677				.033		
6	.040	289.61			.903				.034		
7	.050	302.52			1.129				.033		
8	.060	315.42			1.355				.032		
9	.070	328.32			1.581				.034		
10	.080	341.22			1.806				.035		
11	.090	354.13			2.032				.035	↓	
12	.100	367.03			2.258				.034	BOTTOM ♀	
13									—	OPEN	
14	.120	392.84			2.710				.035	BOTTOM ♀	
15	.130	405.74			2.935				.035	↑	
16	.140	418.64			3.161				.035		
17	.150	431.54			3.387				.034		
18	.160	444.45			3.613				.035		
19	.170	457.35			3.839				.035		
20	.180	470.25			4.064				.035		
21	.190	483.16			4.290				.035		
22	.200	496.06			4.516				.031		
23	.225	528.32			5.081				.031		
24	.250	560.58			5.645				.033		
25	.275	592.83			6.210				.033		
26	.300	625.09			6.774				.032		
27	.325	657.35			7.339				.033		
28	.350	689.60			7.903				.020		
29	.375	721.86			8.468				.026		
30	.400	754.12			9.032				.033		
31	.425	786.38	▼	▼	9.597	▼	▼	▼	.035	▼	
32	.450	818.64		--	10.161		--	0	.034	BOTTOM ♀	

Table IV (Cont'd) Orbiter

T/C NO.	$\frac{x}{L}$	FULL SCALE			MODEL SCALE ( $x$ FROM NOSE)			$\phi$	SKIN THICK- NESS	REMARKS
		$x_0$	$y$	$z$	$y$	$z$				
33	.475	850.89	0	--	10.726	0	--	0	.030	BOTTOM Q
34	.500	883.15	▲	▲	11.290	▲	▲	▲	.030	▲
35	.525	915.41			11.855				.032	
36	.550	947.66			12.419				.031	
37	.575	979.92			12.984				.029	
38	.600	1012.18			13.548				.028	
39	.625	1044.44			14.113				.028	
40	.650	1076.70			14.677				.033	
41	.675	1108.95			15.242				.035	
42	.700	1141.21			15.806				.034	
43	.725	1173.47			16.371				.035	-
44	.750	1205.72			16.935				.035	
45	.775	1237.98			17.500				.034	
46	.800	1270.24			18.064				.035	
47	.825	1302.50			18.624				.035	
48	.850	1334.76			19.193				.033	
49	.875	1367.01			19.758				.033	
50	.900	1399.27			20.322				.034	
51	.925	1431.53			20.887				.035	
52	.950	1463.78			21.451				.032	▼
53	.975	1496.04			22.016				.032	BOTTOM Q
54	1.000	1528.3			22.580				.029	$x = 1.008 \delta_{BF} = 10^\circ .033$
55	1.013	1541.56			22.812				.032	$\delta_{BF} 10^\circ$ ONLY
56	1.025	1560.56			23.145				.032	BF
57	1.038	1574.30			23.385				.032	$\delta_{BF} 10^\circ$ ONLY
58	1.050	1592.82			23.709			0	.030	▼
59	.010	250.90			.226			180	.035	TOP Q
60	.025	270.26			.565			▲	.035	▲
61	.050	302.52			1.129				.035	
62	.075	334.77			1.694				.033	
63	.100	367.03	▼	▼	...58	▼	▼	▼	.033	▼
64	.125	399.29	0	--	1.823	0	--	180	.031	TOP Q

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Table IV (Cont'd) Orbiter

T/C NO.	X L	FULL SCALE			MODEL SCALE			SKIN THICKNESS	REMARKS
		X <sub>0</sub>	Y	Z	X FROM NOSE	Y	Z		
65	.150	431.54	0	--	3.387	0	--	.026	TOP Q
66	.160	444.45			3.613			.031	
67	.170	457.35			3.839			.031	
68	.180	470.25			4.064			.030	
69	.200	496.06			4.516			.033	
70	.250	560.58			5.645			.030	
71	.300	625.09			6.774			.030	
72	.400	754.12			9.032			.030	
73	.500	883.15			11.290			.030	
74	.600	1012.18			13.548			.031	
75	.700	1141.21	↓	↓	15.806	↓	↓	.032	↓
76	.800	1270.24	0	--	18.064	0	--	.030	TOP Q
77		29.60	478.00	WINDOW #1	0.518	8.365	--	.035	TOP LEFT
78		12.80	478.00	WINDOW #1	0.224	8.365	--	.035	TOP RIGHT
79		21.20	464.97	↑	0.371	8.137	↑	.033	CENTER
80		34.40	452.00	↓	0.602	7.910	↑	.035	BOTTOM LEFT
81		6.00	452.00	WINDOW #1	0.105	7.910		.034	BOTTOM RIGHT
82		43.20	478.00	WINDOW #2	0.756	8.365		.035	TOP LEFT
83		34.80	478.00	WINDOW #2	0.609	8.365		.035	TOP RIGHT
84		44.80	464.97	↑	0.784	8.137		.035	CENTER
85		59.20	452.00	Y	1.036	7.910	↓	.035	BOTTOM LEFT
86		40.40	452.00	WINDOW #2	0.707	7.910	--	.035	BOTTOM RIGHT
87		62.40	464.97	WINDOW #3	1.092	8.137	140	.032	CENTER
88	.100	367.03	20.00	--	2.258	0.350	--	.035	FUSELAGE BOTTOM SURFACE
89	.150	431.54	24.00	--	3.387	0.420	--	.035	
90	.050	302.52	25.00	↑	1.129	0.438	--	.033	
91	.200	496.06	25.00		4.516	0.438	↑	11.5 .031	
92	.300	625.09	25.00		6.774	0.438		12 .033	
93	.200	496.06	50.00		4.516	0.875		24 .034	
94	.300	625.09	50.00		6.774	0.875		27 .036	
95	.400	754.12	50.00	↓	9.032	0.875	↓	.026	
96	.500	883.15	50.00	--	11.290	0.875	--	21.5 .026	FUSELAGE BOTTOM SURFACE

Table IV (Cont'd) Orbiter

I/C NO.	$\frac{x}{L}$	FULL SCALE			MODEL SCALE			SKIN THICK- NESS	REMARKS
		$x_0$	y	z	FROM NOSE	y	z		
97	.600	1012.18	50.00		13.548	0.875		21.5	.021
98	.700	1141.21	50.00		15.806	0.875		↑ .033	
99	.800	1270.24	50.00		18.064	0.875		↓ .033	
100	.900	1399.27	50.00		20.322	0.875		21.5	.034
101	1.000	1528.30	100.00		22.580	1.75		39	.031
102	1.050	1592.82	100.00		23.704	1.75		39	.028
103	.100	367.03	39.20		2.258	0.686		20	.033
104	.150	431.54	40.80		3.387	0.714		20	.031
105	.050	302.52		303.60	1.129	--	5.313	22	.031
106	.100	367.03	52.00	--	2.258	0.910		24.5	.033
107	.150	431.54	62.00	--	3.387	1.085	—	25.5	.031
108	.200	496.06	65.60	287.20	4.516	1.148	5.026	31.5	.035
109	.300	625.09	74.46	--	6.774	1.303		34	.033
110	.200	496.06	75.60	292.00	4.516	1.323	5.110	35	.030
111	.150	431.54	79.20	304.80	3.387	1.386	5.334	40	.030
112	.200	496.06	85.20	298.80	4.516	1.491	5.229	40	.034
113	.300	625.09	91.43		6.774	1.600		40	.026
114	.300	625.09	102.86		6.774	1.800		45	.023
115	.050	302.52		325.60	1.129		5.698	35	.030
116	.100	367.03		317.60	2.258		5.558	39	.030
117	.150	431.54	83.60	314.4	3.387	1.463	5.502	45.5	.030
118	.200	496.06		320.00	4.516		5.600	51	.030
119	.300	625.09		330.00	6.774		5.775	57.5	.021
120	.300	625.09		340.00	6.774		5.950	61	.027
121	.076	336.51		350.00	1.724		6.125	--	.030
122	.300	625.09		350.00	6.774		6.125	65	.026
123	.800	1270.24		350.00	18.064		6.125	65	,017
124	.900	1399.27		350.00	20.322		6.125	65	.033
125	.975	1496.04		350.00	22.016		6.125	68	.034
126	.975	1496.04		300.00	22.016		5.250	52.5	.032
127	.050	302.52		342.40	1.129		5.992	? 5	.030

TANGENT (UPPER)

Table IV (Cont'd) Orbiter

I/C NO.	$\frac{x}{L}$	FULL SCALE			MODEL SCALE			SKIN THICK- NESS	REMARKS
		$x_0$	y	z	FROM NOSE	y	z		
128	.200	496.06	--	360.00	4.516	--	6.300	67.5 .026	FUSELAGE SIDE
129	.300	625.09	--	360.00	6.774		6.300	70 .023	
130	.600	1012.18		375.14	13.548		6.565	77 .031	
131	.050	302.52		378.40	1.129		6.622	60 .035	45° TANGENT
132	.100	367.03		410.00	2.258		7.175	119 .034	
133	.200	496.06		410.00	4.516		7.175	96.5 .028	
134	.300	625.09		430.00	6.774		7.525	106 .032	FUSELAGE SIDE
135	.400	754.12		430.00	9.032	↑	105	.033	UPPER BODY
136	.500	883.15		430.00	11.290		↑	.032	
137	.600	1012.18		430.00	13.548			.032	
138	.700	1141.21		430.00	15.806	↓	↓	.032	
139	.800	1270.24		430.00	18.064		7.525	.032	
140	.900	1399.27		370.00	20.322		6.475	.033	
141	.300	625.09		478.80	6.774		8.379	135 .031	
142	.400	754.12			9.032			135 .030	
143	.500	883.15			11.290			135 .033	
144	.600	1012.18			13.548			135 .033	
145	.700	1141.21			15.806			135 .032	
146	.600	1012.18		445.0	13.548		7.788	113 .032	
147	.600	1012.18		440.0	13.548		7.70	112 .032	
148	.750	1205.73		450.00	15.806		7.875	116 .032	
149	.750	1502.73		490.00	15.806		8.575	149 .034	UPPER BODY
150	.400	754.12			9.032			59.5 .031	WING UPPER CREASE
151	.500	883.15			11.290			63 .012	
152	.600	1012.18			13.548			65.5 .030	
153	.700	1141.21			15.806			64 .030	
154	.900	1399.27		332.0	20.322		--	.034	WING UPPER CREASE

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

Table IV (Continued) Orbiter

T/C NO.	$\frac{2y}{b}$	$\frac{x}{c}$	FULL SCALE		MODEL SCALE		SKIN THICK- NESS	REMARKS
			$x_0$	y	$x_0$	y		
155	.250	.025	640.650	117.085	7.043	2.049	.051	WING BOTTOM
156	▲	.153	754.120	▲	9.030	▲	.035	SURFACE
157	↑	.299	883.150		11.288		.028	↑
158		.444	1012.180		13.545		.023	
159		.590	1141.200		15.802		.034	
160	▼	.736	1270.230	▼	18.060	▼	.034	
161	.250	.900	1415.900	117.085	20.613	2.049	.034	
162	.301		754.000		9.030		.023	30° ROLL DOWN
163	.348		883.000		11.288		.028	30° ROLL DOWN
164	▲	.400	1002.063	187.336	13.364	3.278	.035	
165	▲	.100	1039.750	▲	14.031	▲	.034	
166	↑	.200	1090.000		14.900		.034	
167	↑	.302	1141.210		15.802		.035	
168		.559	1270.230		18.060		.032	
169	▼	.700	1341.250	▼	19.307	▼	.032	
170	.400	.900	1441.750	187.336	21.065	3.278	.032	ELEVON
171	.500		1067.470	234.170	14.516	1.098	.033	30° ROLL DOWN
172	▲	.025	1077.913	▲	14.696	▲	.035	
173		.177	1141.210		15.802		.030	
174		.300	1192.450		16.706		.031	
175		.487	1270.230		18.060		.034	
176		.600	1317.428		18.895		.034	
177		.700	1359.028	▼	19.618	▼	.033	
178	▼	.900	1442.350	234.170	21.075	4.098	.033	ELEVON
179	.600	.100	1152.000	281.004	15.995	4.918	.033	
180	▲	.200	1188.00	▲	16.625	▲	.031	
181		.300	1224.000		17.255		.026	
182		.428	1270.230		18.064		.026	
183	▼	.600	1332.000	▼	19.145	▼	.027	WING BOTTOM
184	.600	.700	1368.000	281.004	19.775	4.918	.024	SURFACE

Table IV (Continued) Orbiter

T/C NO.	$\frac{2y}{b}$	$\frac{x}{c}$	FULL SCALE		MODEL SCALE		SKIN THICK- NESS	REMARKS
			$x_0$	y	x (FROM NOSE)	y		
185	.600	.800	1404.000	281.004	20.404	4.918	.035	WING BOTTOM SURFACE
186	.600	.850	1422.000	↑↓	20.720		.033	ELEVON ↑
187	.600	.90	1440.000	281.004	21.034		.034	
188	.750		1186.5	351.255	16.599	6.147	.035	L.E. ROLLED
189	▲	.025	1193.428	▲	16.720	▲	.035	DOWN 30°
190		.100	1214.228		17.084		.032	
191		.303	1270.230		18.064		.032	
192		.500	1325.028		19.023		.032	
193		.700	1380.400		19.992		.027	
194		.800	1408.100		20.476		.031	
195	▼	.850	1422.000	▼	20.719	▼	.035	
196	.750	.900	1435.800	351.255	20.962	6.147	.035	
197	.850	.100	1255.200	398.089	17.801	6.967	.031	
198	.850	.300	1299.600	398.089	18.578	6.967	.034	
199	.850	.500	1344.000	398.089	19.355	6.967	.032	
200	.900	.60	1373.028	421.506	19.863	7.376	.024	
201	.900	.30	1314.743	421.506	18.846	7.376	.030	
202	.950			444.857		7.785	.035	L.E. ROLLED 30°
203	▲	.650	1295.925	▲	18.514	▲	.035	
204		.100	1303.828		18.652		.035	
205		.300	1335.543		19.207		.024	
206		.500	1367.257		19.762		.022	
207	▼	.700	1398.950		20.316	▼	.035	
208	.950	.900	1430.650	▼	20.870	7.785	.030	
209	.966	0.00	1307.000	452.416	18.708	7.917	.032	L.E.
210	.993	0.00	1398.950	464.914	20.316	8.136	.031	L.E.
211	.600			281.004		4.918	.035	CLUSTER B
212	↑					↑	.035	↑
213	▼					▼	.035	▼
214	.600			281.004		4.918	.035	WING BOTTOM SURFACE ↓

Table IV (Continued) Orbiter

T/C NO.	$\frac{2y}{b}$	$\frac{x}{c}$	FULL SCALE		MODEL SCALE		SKIN THICK- NESS	REMARKS
			$x_0$	$y$	$x$ (FROM NOSE)	$y$		
215	.600				221.004		4.918	.035
216	.600				281.004		4.918	.035
217	.600				281.004		4.918	.035
218	.850				398.029		6.967	.020
219								CLUSTER B SEE FIG. 2
220								
221								
222								
223								
224	.850				398.029		6.967	.020
225	.400	.050	1015.114	187.336	13.599	3.278	.025	WING TOP SURFACE
226		.200	1090.428		14.918		.024	
227		.600	1291.171				.033	
228	.400	.950	1466.875	187.336		3.278	.031	ELEVON
229	.600	.050	1134.886	281.004	15.696	4.918	.032	
230	.600	.200	1188.657		16.637		.031	
231	.600	.600	1332.028		19.146		.031	
232		.800	1404.000		20.404		.032	ELEVON
233		.900	1440.000		21.034		.034	
234	.600	.950	1458.000	281.004	21.349	4.918	.033	
235	.800	.050	1223.057	374.672	17.239	6.557	.033	
236		.200	1260.257		17.889		.033	
237		.600	1359.514		19.627		.032	
238		.800	1408.780		20.488		.030	ELEVON
239		.900	1433.690		20.924		.030	ELEVON
240	.800	.950	1446.145	374.672	21.192	6.557	.030	ELEVON

Table IV (Continued)

Orbiter

I/C NO.	x $\tau$	FULL SCALE			MODEL SCALE			$\phi$	SKIN THICK- NESS	REMARKS
		$x_0$	y	z	x (FROM NOSE)	y	z			
241	.829	1307			18.715				.026	BOTTOM CREASE OF OMS
242	.900	1399.27			20.318				.035	BOTTOM CREASE OF OMS
243	.975	1496.04			22.011				.030	BOTTOM CREASE OF OMS
244	1.000	1528.3			22.575				.034	BOTTOM OF RCS
245	1.014	1547.0			22.902				.035	BOTTOM OF RCS
246	.780	1245	95.0	474.0	17.608	1.662	8.295	127.9	.032	OMS PODS
247	.805	1276	112.9	474.0	18.173	1.976	8.295	123.8	.031	↑
248	.829	1307	124.5	474.0	18.715	2.179	8.295	120.8	.031	
249	.862	1350	132.6	↑	19.460	2.320	8.295	119.1	.035	
250	.963	1480	142.5	↓	21.740	2.494	8.295	117.5	.028	
251	1.000	1528.3	142.5	↓	22.575	2.494	8.295	117.5	.033	
252	1.014	1547.0		474.0	22.902		8.295		.033	
253	.805	1276	105.5	488	18.173	1.846	8.540	129.5	.032	
254	.829	1307	117.0	498.7	18.715	2.048	8.727	130.0	.033	
255	.862	1350	126.5	506	19.460	2.214	8.855	130.0	.031	
256	.963	1480	134.5	513	21.740	2.354	8.978	130.0	.028	
257	1.000	1528.3		500	22.575		8.750		.031	
258	1.014	1547.0		500	22.902		8.750		.032	
259	.805	1276	95.0	494.3	18.173	1.662	8.650	135.0	.033	
260	.829	1307	95.0	511.0	18.715	1.662	8.942	139.0	.034	
261	.862	1350	95.0	521.0	19.460	1.662	9.118	142.1	.031	
262	.963	1480	95.0	530.0	21.740	1.662	9.275	144.0	.027	
263	.862	1350	65	517.5	19.460	1.138	9.056	151.2	.031	↓
264	.963	1480	65	527.0	21.740	1.138	9.222	153	.026	OMS PODS

Table IV (CONCLUDED) Orbiter

T/C NO.	$\frac{z}{b_v}$	$\frac{x}{c}$	FULL SCALE		MODEL SCALE		SKIN THICKNESS	REMARKS
			$x_0$	z	x (FROM) NOSE	z		
265	.159	.100	1353.00	550.20	19.513	9.628	.030	VERTICAL TAIL
266	↑ .300	.01.51	550.20	20.361	9.628	- .630		
267	↓ .700	1498.66	550.20	22.062	9.628	- .028		
268	.299	0.00		594.40		10.402	.033	L.E.
269	↑ .100	1394.94	↑	20.246	↑		.031	
270	.300	1439.00		21.018			.031	
271	.500	1483.06		21.789			.031	
272	.700	1527.11	↓	22.559	↓		.022	
273	.299	.900	1571.17	594.40	23.330	10.402	.022	
274	.532	0.00		667.96		11.689	.034	L.E.
275	↑ .100	1538.31	↑	22.755	↑		.031	
276	.300	1574.94		23.396			.032	
277	.500	1611.57		35.034			.032	
278	↓ .700	1648.14	↓	24.677	↓		.023	
279	.532	.900	1684.77	667.96	25.318	11.689	.026	
280	.765	0.00		741.53		12.977	.034	L.E.
281	.765	.100	1461.00	↑	21.403	↑	.031	
282	↑ .300	1490.14		21.912			.031	
283	.500	1519.29		22.423			.030	
284	↓ .700	1548.43	↓	22.933	↓		.024	
285	.765	.900	1577.57	741.53	23.442	12.977	.024	
286	.905	0.00		785.73		13.750	.033	L.E.
287	.905	.100	1576.49	785.73	23.424	13.750	.030	
288	.905	.500	1625.86	785.73	24.288	13.750	.030	VERTICAL TAIL

Table V Orbiter Left Main Nozzle T/C Locations  
Model 22-OTS

T/C NO.	X FROM EXIT PLANE		$\phi_n$ SKIN THICKNESS	CLOCKWISE LOOKING FORWARD
	F.S.	M.S.		0° BOTTOM
301	5"	0.088	.031	0°
302			.031	25°
303			.031	45°
304			.031	65°
305			.031	90°
306			.031	135°
307	↓	↓	.031	315°
308	10"	0.175	.031	0°
309			.031	25°
310			.031	45°
311			.031	65°
312	↓	↓	.031	90°
313	15"	0.263	.031	0°
314			.031	45°
315	↓	↓	.031	90°
316	25"	0.438	.031	0°
317			.031	45°
318			.031	65°
319	↓	↓	.031	90°
320	45"	0.788	.031	45°
321			.032	BASE PLATE
322			.034	↓
323			.031	↓
324			.032	↓

Table VI Solid Rocket Booster T/C Locations  
Model 22-OTS

T/C NO.	$x_s$ FS	$x^*$ ms	$\frac{x}{L}$	$\psi$	SKIN THICKNESS	REMARKS
701	200.000	0.000	0.000	90°	.022	NOSE
702	241.900	0.733	0.025	90°	.031	
703	283.800	1.467	0.050	90°	.031	
704	367.600	2.933	0.100	90°	.033	↓
705	870.400	11.732	0.400	90°	.029	
706	1373.200	20.531	0.700	90°	.030	
707	1507.280	22.877	0.780	90°	.030	
708	1540.800	23.464	0.800	90°	.029	
709	1708.400	26.397	0.900	90°	.031	
710	1758.680	27.277	0.930	90°	.034	
711	1859.240	29.037	0.990	90°	.036	
712	1373.200	20.531	0.700	135°	.030	
713	1708.400	26.397	0.900	135°	.030	
714	1758.680	27.277	0.930	135°	.034	
715	1859.240	29.037	0.990	135°	.035	
716	283.800	1.467	0.050	180°	.032	
717	367.600	2.933	0.100	180°	.034	
718	535.200	5.866	0.200	180°	.030	
719	870.400	11.732	0.400	180°	.030	
720	1038.000	14.665	0.500	180°	.029	
721	1205.600	17.598	0.600	180°	.030	
722	1289.400	19.065	0.650	180°	.030	
723	1373.200	20.531	0.700	180°	.029	
724	1457.000	21.998	0.750	180°	.029	
725	1507.280	22.877	0.780	180°	.030	
726	1540.800	23.464	0.800	180°	.028	
727	1624.600	24.931	0.850	180°	.028	
728	1708.400	26.397	0.900	180°	.028	
729	1758.680	27.277	0.930	180°	.032	SKIRT
730	1808.960	28.157	0.960	180°	.034	SKIRT
731	1859.240	29.037	0.990	180°	.034	SKIRT
732	1715.000	26.514	0.904	210°	.028	SEPARATION
733	1738.000	26.984	0.918	210°	.030	NOZZLES 15-5 MI

\*MEASURED FROM NOSE

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ORIGINAL PAGE IS POOR

Table VI (Continued)  
(Solid Rocket Booster)

T/C NO.	$x_s$ FS	$x_{ms}^*$	$\frac{x}{L}$	$\psi$	SKIN THICKNESS	REMARKS
734	1750.000	27.130	0.925	210°	.032	
735	1792.200	27.864	0.950	210°	.033	
736	1825.720	28.450	0.970	210°	.032	
737	1750.300	27.130	0.925	≈ 215°	.032	
738	1775.440	27.570	0.940	≈ 215°	.032	
739	1808.960	28.157	0.960	≈ 215°	.033	
740	325.700	2.200	0.075	225°	.035	
741	367.600	2.933	0.100	225°	.034	
742	451.400	4.400	0.150	225°	.032	
743	535.200	5.866	0.200	225°	.030	
744	702.800	8.799	0.300	225°	.028	
745	870.400	11.732	0.400	225°	.030	
746	1038.000	14.665	0.500	225°	.030	
747	1205.600	17.598	0.600	225°	.030	
748	1373.200	20.531	0.700	225°	.030	
749	1507.280	22.877	0.780	225°	.030	
750	1540.800	23.464	0.800	225°	.029	
751	1624.600	24.931	0.850	225°	.029	
752	1703.400	26.397	0.900	225°	.027	
753	1758.680	27.277	0.930	225°	.031	SKIRT
754	1808.960	28.157	0.960	225°	.032	
755	1859.240	29.037	0.990	225°	.032	
756	1758.68	27.277	0.930	240°	.030	
757	1808.960	28.157	0.960	240°	.031	
758	1859.240	29.037	0.990	240°	.032	
759	702.800	8.799	0.300	247.5°	.028	
760	870.400	11.732	0.400	247.5°	.030	
761	1038.000	14.665	0.500	247.5°	.030	
762	1205.600	17.598	0.600	247.5°	.030	
763	1289.400	19.065	0.650	247.5°	.031	
764	1373.200	20.531	0.700	247.5°	.030	
765	1457.000	21.998	0.750	247.5°	.031	
766	392.710	3.373	0.115	260°	.032	

\*MEASURED FROM NOSE

Table VI (Concluded)  
(Solid Rocket Booster)

T/C NO.	$x_s$ FS	$x_{ms}^*$	$\frac{x}{L}$	$\downarrow$	SKIN THICKNESS	REMARKS
767	203.816	0.067	0.002	$270^\circ$	.035	
768	241.900	0.733	0.025	$270^\circ$	.033	
769	283.800	1.467	0.050	$270^\circ$	.033	
770	325.700	2.200	0.075	$270^\circ$	.036	
771	367.600	2.933	0.100	$270^\circ$	.036	
772	384.360	3.226	0.110	$270^\circ$	.036	
773	417.880	3.813	0.130	$270^\circ$	.032	
774	451.400	4.400	0.150	$270^\circ$	.032	
775	535.200	5.866	0.200	$270^\circ$	.030	
776	619.000	7.333	0.250	$270^\circ$	.030	
777	702.800	8.799	0.300	$270^\circ$	.028	
778	870.400	11.732	0.400	$270^\circ$	.029	
779	1038.000	14.665	0.500	$270^\circ$	.030	
780	1205.600	17.598	0.600	$270^\circ$	.031	
781	1289.400	19.065	0.650	$270^\circ$	.031	
782	1373.200	20.531	0.700	$270^\circ$	.030	
783	1457.000	21.998	0.750	$270^\circ$	.030	
784	1507.280	22.877	0.780	$270^\circ$	.030	
785	1540.800	23.464	0.800	$270^\circ$	.030	
786	1624.600	24.931	0.850	$270^\circ$	.030	
787	1708.400	26.397	0.900	$270^\circ$	.027	
788	1758.680	27.277	0.930	$270^\circ$	.029	SKIRT
789	1808.960	28.157	0.960	$270^\circ$	.032	
790	1859.240	29.037	0.990	$270^\circ$	.032	
791	702.800	8.799	0.300	$315^\circ$	.029	
792	1038.000	14.665	0.500	$315^\circ$	.030	
793	1373.000	20.531	0.700	$315^\circ$	.029	
794	1507.280	22.877	0.780	$315^\circ$	.028	
795	1540.800	23.464	0.800	$315^\circ$	.028	
796	1708.400	26.397	0.900	$315^\circ$	.028	
797	1758.680	27.277	0.930	$315^\circ$	.030	
798	1859.240	29.037	0.990	$315^\circ$	.032	

\*MEASURED FROM NOSE

Table VII External Tank Locations

T/C NO.	x <sub>T</sub>	x <sub>ms</sub>	x <sub>L</sub>	$\theta$	SKIN THICKNESS	REMARKS
501	383.60	1.306	.040	0°	.034	NOSE
502	458.20	2.6110	.080		.034	NOSP
503	588.75	4.896	.150		.035	NOSE
504	1055.00	13.055	.400		.035	
505	1428.00	19.582	.600		.034	
506	1801.00	26.110	.900	0°	.035	
507	1055.00	13.055	.400	45°	.035	
508	1241.50	16.319	.500	↑	.035	
509	1428.00	19.582	.600		.034	
510	1614.50	22.846	.700		.034	
511	1801.00	26.110	.800	↓	.035	
512	1987.5	29.374	.900	45°		↑
513	868.5	9.791	.300	67.5°		↓
514	961.75	11.423	.350	↑		↓
515	1055.00	13.055	.400		.035	
516	1241.50	16.319	.500		.034	
517	1428.00	19.582	.600			↑
518	1521.25	21.214	.650			↓
519	1614.50	22.846	.700		.034	
520	1707.75	24.478	.750		.035	
521	1801.00	26.110	.800	↓		↑
522	1987.5	29.374	.900	67.5°		
523	682.00	6.528	.200	90°		
524	775.25	8.159	.250	↑		
525	821.88	8.975	.275			
526	868.50	9.791	.300			
527	915.12	10.607	.325			↓
528	961.75	11.423	.350		.035	
529	1055.00	13.055	.400		.034	
530	1148.25	14.687	.450		.035	
531	1241.5	16.319	.500		.034	
532	1334.75	17.951	.550	↓	.035	
533	1428.00	19.582	.600	90°	.034	

\*MEASURED FROM NOSE

Table VII(Continued)  
(External Tank)

T/C NO.	X <sub>T</sub> FS	X <sub>MS</sub> *	X L	θ	SKIN THICKNESS	REMARKS
534	1521.25	21.214	.650	90°	.034	
535	1614.50	22.846	.700	↑	.034	
536	1707.75	24.478	.750		.035	
537	1801.00	26.110	.800		.035	
538	1894.25	27.742	.850	↓	.034	
539	1987.50	29.374	.900	90°		
540	821.88	8.975	.275	112.5°	.035	
541	968.50	9.791	.300	↑	▲	
542	915.12	10.607	.325			
543	961.75	11.423	.350			
544	1055.00	13.055	.400		▼	
545	1148.25	14.687	.450		.035	
546	1241.50	16.319	.500		.034	
547	1334.75	17.951	.550		.035	
548	1428.00	19.582	.600		.034	
549	1521.25	21.214	.650		.034	
550	1614.50	22.846	.700		.034	
551	1707.75	24.478	.750		.035	
552	1801.00	26.110	.800		▲	
553	1894.25	27.742	.850	↓	▼	
554	1987.50	29.374	.900	112.5°	.035	
555	1847.62	26.926	.825	123°	.034	
556	1894.25	27.742	.850	↑	.035	
557	1940.88	28.558	.875		.034	
558	1987.50	29.374	.900		.035	
559	2034.12	30.190	.925	▼	.035	
560	2099.40	31.332	.960	123°	.034	
561	915.12	10.607	.325	135°	.035	
562	961.75	11.423	.350	↑	▲	
563	1008.38	12.239	.375			
564	1055.00	13.055	.400		▼	
565	1148.25	14.687	.450		.035	
566	1241.50	16.319	.500		.034	
567	1334.75	17.951	.550		.035	
568	1428.00	19.582	.600	▼	.034	
569	1521.25	21.214	.650	135°	.034	

\*MEASURED FROM NUSE

Table VII (Continued)  
(External Tank)

T/C NO.	$x_T$ FS	$x^*$ $x_{MS}$	$\frac{x}{L}$	$\theta$	SKIN THICKNESS	REMARKS
570	1614.50	22.846	.700	135°	.035	
571	1707.75	24.478	.750	↑	.034	
572	1801.00	26.110	.800		.035	
573	1894.25	27.742	.850	↓	.034	
574	1987.50	29.374	.900	↓	.035	
575	2052.78	30.576	.935	135°		
576	1055.00	13.055	.400	151	.035	
577	1101.62	13.871	.425	157	↑	
578	1148.25	14.687	.450	↑	↓	
579	1194.88	15.503	.475		.035	
580	1241.50	16.319	.500		.034	
581	1334.75	17.951	.550		.035	
582	1428.00	19.582	.600		.034	
583	1521.25	21.214	.650		.034	
584	1614.50	22.846	.700		.035	
585	1707.75	24.478	.750		.035	
586	1801.00	26.110	.800		.035	
587	1894.25	27.742	.850	↓	.034	
588	1987.50	29.374	.900	157	.034	
589	1101.62	13.871	.425	161	.035	
590	1241.50	16.319	.500	165°	.034	
591	1614.50	22.846	.700	165°	.035	
592	1987.50	29.374	.900	165°	.034	
593	1055.00	13.055	.400	165°	.035	
594	309.00	0.000	0.000	180	.033	NOSE
595	318.32	0.163	.005	↑	.033	
596	327.65	0.326	.010		.034	
597	383.60	1.306	.040	↓	.033	
598	458.20	2.111	.080	180°	.035	↓

\*MEASURED FROM NOSE

Table VII (CONTINUED)  
(External Tank)

T/C NO.	X <sub>T</sub> FS	X <sub>ms</sub> *	X L	θ	SKIN THICKNESS	REMARKS
599	580.75	4.896	.150	180°	.035	
600	682.00	6.528	.200	▲	.034	
601	775.25	8.159	.250		.035	
602	868.50	9.791	.300		↑	
603	961.75	11.423	.350		↓	
604	1008.38	12.239	.375		.035	
605	1055.00	13.055	.400		.034	
606	1101.62	13.871	.425		↑	
607	1148.25	14.687	.450		↓	
608	1194.88	15.503	.475		↓	
609	1241.50	16.319	.500		.034	
610	1288.12	17.135	.525		.035	
611	1334.75	17.951	.550		.035	
612	1381.38	18.767	.575		.034	
613	1428.00	19.582	.600		↑	
614	1474.62	20.398	.625			
615	1521.25	21.214	.650			
616	1567.88	22.030	.675		↓	
617	1614.50	22.846	.700		.034	
618	1707.75	24.478	.750		.035	
619	1801.00	26.110	.800		.035	
620	1894.25	27.742	.850		.035	
621	1987.5	29.374	.900		.034	
622	2056.50	30.581	.937	↓	.034	
623	2127.38	31.922	.975	180°	.034	
624	458.20	2.611	.080	194°	.035	
625	587.75	4.896	.150	196°	.035	
626	868.50	9.791	.300	196°	.035	

\*MEASURED FROM NOSE

Table VII (Concluded)  
(External Tank)

T/C NO.	$x_T$	$x_{ms}$	$\bar{x}_L$	$\theta$	SKIN THICKNESS	REMARKS
627	1241.50	16.319	.500	196°	.034	
628	1614.50	22.846	.700	196°	.034	
629	1987.50	29.374	.900	197°	.034	
630	588.75	4.896	.150	208°	.033	
631	1055.00	13.055	.400	↑	.034	
632	1428.00	19.582	.600	↓	.035	
633	1801.00	26.110	.800	↓	.035	
634	2056.50	30.581		208	.035	
635	1055.00	13.055	.400	216°	.034	
636	1241.50	16.319	.500	216°	.034	
637	1614.50	22.846	.700	216°	.034	
638	933.78	10.934	.335	222.5°	.036	
639	1055.00	13.055	.400	229°	.034	
640	1428.00	19.582	.600	229°	.035	
641	1801.00	26.110	.800	229°	.035	

\*MEASURED FROM NOSE

TABLE VIII  
Thermocouple Schedule No. X1

Thermocouple No.	Channel	Thermocouple No.	Channel	Thermocouple No.	Channel
1	1	48	26	91	51
2	2	50	27	92	52
3	3	52	28	93	53
4	4	54	29	94	54
6	5	56	30	95	55
8	6	58	31	96	56
10	7	59	32	97	57
12	8	60	33	98	58
14	9	61	34	99	59
16	10	62	35	100	60
18	11	63	36	101	61
20	12	64	37	102	62
22	13	65	38	104	63
24	14	66	39	105	64
26	15	67	40	111	65
28	16	68	41	115	66
30	17	69	42	116	67
32	18	71	43	134	68
34	19	72	44	135	69
36	20	74	45	150	70
38	21	79	46	155	71
40	22	84	47	156	72
42	23	87	48	157	73
44	24	88	49	158	74
46	25	90	50	159	75

TABLE VIII  
Thermocouple Schedule No. X2

Thermocouple No.	Channel	Thermocouple No.	Channel	Thermocouple No.	Channel
160	1	187	26	214	51
161	2	188	27	215	52
162	3	189	28	216	53
163	4	190	29	218	54
164	5	191	30	219	55
165	6	192	31	220	56
166	7	193	32	221	57
167	8	196	33	222	58
168	9	197	34	229	59
169	10	198	35	230	60
170	11	199	36	232	61
171	12	200	37	234	62
172	13	201	38	246	63
173	14	202	39	247	64
174	15	203	40	274	65
175	16	204	41	275	66
176	17	205	42	276	67
177	18	206	43	277	68
178	19	207	44	278	69
179	20	208	45	279	70
180	21	209	46	280	71
181	22	210	47	281	72
182	23	211	48	282	73
183	24	212	49	283	74
184	25	213	50	284	75

TABLE VIII  
Thermocouple Schedule No. X3

Thermocouple No.	Channel	Thermocouple No.	Channel	Thermocouple No.	Channel
5	1	57	26	119	51
7	2	70	27	120	52
9	3	73	28	121	53
11	4	75	29	122	54
15	5	76	30	123	55
17	6	77	31	124	56
19	7	78	32	125	57
21	8	80	33	126	58
23	9	81	34	127	59
25	10	82	35	128	60
27	11	83	36	129	61
29	12	85	37	130	62
31	13	86	38	131	63
33	14	89	39	132	64
35	15	103	40	133	65
37	16	106	41	136	66
39	17	107	42	137	67
41	18	108	43	138	68
43	19	109	44	139	69
45	20	110	45	140	70
47	21	112	46	141	71
49	22	113	47	142	72
51	23	114	48	143	73
53	24	117	49	144	74
55	25	118	50	145	75

TABLE VIII  
Thermocouple Schedule No. X4

Thermocouple No.	Channel	Thermocouple No.	Channel	Thermocouple No.	Channel
146	1	239	26	266	51
147	2	240	27	267	52
148	3	241	28	268	53
149	4	242	29	269	54
151	5	243	30	270	55
152	6	244	31	271	56
153	7	245	32	272	57
154	8	248	33	273	58
185	9	249	34	286	59
186	10	250	35	287	60
194	11	251	36	501	61
195	12	252	37	502	62
217	13	253	38	503	63
223	14	254	39	504	64
224	15	255	40	505	65
225	16	256	41	506	66
226	17	257	42	507	67
227	18	258	43	508	68
228	19	259	44	509	69
231	20	260	45	510	70
233	21	261	46	511	71
235	22	262	47	512	72
236	23	263	48	513	73
237	24	264	49	514	74
238	25	265	50	515	75

TABLE VIII  
Thermocouple Schedule No. X5

Thermocouple No.	Channel	Thermocouple No.	Channel	Thermocouple No.	Channel
516	1	541	26	566	51
517	2	542	27	567	52
518	3	543	28	568	53
519	4	544	29	569	54
520	5	545	30	570	55
521	6	546	31	571	56
522	7	547	32	572	57
523	8	548	33	573	58
524	9	549	34	574	59
525	10	550	35	575	60
526	11	551	36	576	61
527	12	552	37	577	62
528	13	553	38	578	63
529	14	554	39	579	64
530	15	555	40	580	65
531	16	556	41	581	66
532	17	557	42	582	67
533	18	558	43	583	68
534	19	559	44	584	69
535	20	560	45	585	70
536	21	561	46	586	71
537	22	562	47	587	72
538	23	563	48	588	73
539	24	564	49	589	74
540	25	565	50	590	75

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TABLE VIII  
Thermocouple Schedule No. X6

Thermocouple No.	Channel	Thermocouple No.	Channel	Thermocouple No.	Channel
591	1	616	26	752	51
592	2	617	27	759	52
593	3	618	28	792	53
594	4	619	29	636	54
595	5	620	30	637	55
596	6	621	31	638	56
597	7	622	32	639	57
598	8	623	33	640	58
599	9	624	34	641	59
600	10	625	35	Open	60
601	11	626	36	701	61
602	12	627	37	702	62
603	13	628	38	703	63
604	14	629	39	704	64
605	15	630	40	705	65
606	16	631	41	708	66
607	17	632	42	709	67
608	18	633	43	710	68
609	19	634	44	711	69
610	20	635	45	714	70
611	21	706	46	715	71
612	22	707	47	716	72
613	23	713	48	717	73
614	24	744	49	718	74
615	25	749	50	719	75

TABLE VIII  
Thermocouple Schedule No. X7

Thermocouple No.	Channel	Thermocouple No.	Channel	Thermocouple No.	Channel
720	1	753	26	784	51
721	2	754	27	785	52
722	3	755	28	787	53
723	4	756	29	788	54
724	5	757	30	789	55
725	6	758	31	790	56
726	7	760	32	791	57
728	8	762	33	793	58
729	9	766	34	797	59
730	10	767	35	798	60
731	11	768	36	712	61
732	12	769	37	727	62
733	13	770	38	746	63
734	14	771	39	748	64
735	15	772	40	750	65
736	16	773	41	751	66
737	17	774	42	761	67
738	18	775	43	763	68
739	19	776	44	754	69
740	20	777	45	765	70
741	21	778	46	780	71
742	22	779	47	786	72
743	23	781	48	794	73
745	24	782	49	795	74
747	25	783	50	796	75

TABLE VIII

## Thermocouple Schedule No. X8

Thermocouple No.	Channel	Thermocouple No.	Channel	Thermocouple No.	Channel
501	1	526	26	551	51
502	2	527	27	552	52
503	3	528	28	553	53
504	4	529	29	554	54
505	5	530	30	555	55
506	6	531	31	556	56
507	7	532	32	557	57
508	8	533	33	558	58
509	9	534	34	559	59
510	10	535	35	560	60
511	11	536	36	561	61
512	12	537	37	562	62
513	13	538	38	563	63
514	14	539	39	564	64
515	15	540	40	565	65
516	16	541	41	566	66
517	17	542	42	567	67
518	18	543	43	568	68
519	19	544	44	569	69
520	20	545	45	570	70
521	21	546	46	571	71
522	22	547	47	572	72
523	23	548	48	573	73
524	24	549	49	574	74
525	25	550	50	575	75

TABLE VIII  
Thermocouple Schedule No. X9

Thermocouple No.	Channel	Thermocouple No.	Channel	Thermocouple No.	Channel
576	1	601	26	626	51
577	2	602	27	627	52
578	3	603	28	628	53
579	4	604	29	629	54
580	5	605	30	630	55
581	6	606	31	631	56
582	7	607	32	632	57
583	8	608	33	633	58
584	9	609	34	634	59
585	10	610	35	635	60
586	11	611	36	636	61
587	12	612	37	637	62
588	13	613	38	638	63
589	14	614	39	639	64
590	15	615	40	640	65
591	16	616	41	641	66
592	17	617	42	Open	67
593	18	618	43	Open	68
594	19	619	44	Open	69
595	20	620	45	Open	70
596	21	621	46	Open	71
597	22	622	47	Open	72
598	23	623	48	Open	73
599	24	624	49	Open	74
600	25	625	50	Open	75

TABLE VIII  
Thermocouple Schedule No. X10

Thermocouple No.	Channel	Thermocouple No.	Channel	Thermocouple No.	Channel
701	1	731	26	768	51
702	2	732	27	769	52
703	3	733	28	770	53
704	4	734	29	771	54
705	5	735	30	772	55
708	6	736	31	773	56
709	7	737	32	774	57
710	8	738	33	775	58
711	9	739	34	776	59
714	10	740	35	777	60
715	11	741	36	778	61
716	12	742	37	779	62
717	13	743	38	781	63
718	14	745	39	782	64
719	15	747	40	783	65
720	16	753	41	784	66
721	17	754	42	785	67
722	18	755	43	787	68
723	19	756	44	788	69
724	20	757	45	789	70
725	21	758	46	790	71
726	22	760	47	791	72
728	23	762	48	793	73
729	24	766	49	797	74
730	25	767	50	798	75

TABLE VIII  
Thermocouple Schedule No. XII

Thermocouple No.	Channel	Thermocouple No.	Channel	Thermocouple No.	Channel
37	1	106	26	521	51
39	2	107	27	522	52
41	3	108	28	523	53
43	4	109	29	524	54
45	5	110	30	525	55
47	6	129	31	526	56
49	7	130	32	527	57
51	8	131	33	528	58
53	9	132	34	529	59
Open	10	133	35	530	60
Open	11	136	36	531	61
70	12	137	37	532	62
73	13	138	38	533	63
75	14	139	39	534	64
76	15	140	40	535	65
77	16	141	41	536	66
78	17	142	42	537	67
80	18	143	43	538	68
81	19	144	44	539	69
82	20	145	45	540	70
83	21	516	46	541	71
85	22	517	47	542	72
86	23	518	48	543	73
89	24	519	49	544	74
103	25	520	50	545	75

TABLE VIII  
Thermocouple Schedule No. X12

Thermocouple No.	Channel	Thermocouple No.	Channel	Thermocouple No.	Channel
146	1	239	26	266	51
147	2	240	27	267	52
148	3	241	28	268	53
149	4	242	29	269	54
151	5	243	30	270	55
152	6	244	31	271	56
153	7	245	32	272	57
154	8	248	33	273	58
185	9	249	34	286	59
186	10	250	35	287	60
194	11	251	36	701	61
195	12	252	37	702	62
217	13	253	38	703	63
223	14	254	39	704	64
224	15	255	40	705	65
225	16	256	41	708	66
226	17	257	42	709	67
227	18	258	43	710	68
228	19	259	44	711	69
231	20	260	45	714	70
233	21	261	46	715	71
235	22	262	47	716	72
236	23	263	48	717	73
237	24	264	49	718	74
238	25	265	50	719	75

TABLE VIII  
Thermocouple Schedule No. X13

Thermocouple No.	Channel	Thermocouple No.	Channel	Thermocouple No.	Channel
546	1	586	26	611	51
547	2	587	27	612	52
548	3	588	28	613	53
549	4	589	29	614	54
550	5	590	30	615	55
551	6	591	31	616	56
552	7	592	32	617	57
553	8	593	33	618	58
554	9	594	34	619	59
555	10	595	35	620	60
556	11	596	36	621	61
557	12	597	37	622	62
558	13	598	38	623	63
559	14	599	39	624	64
560	15	600	40	625	65
576	16	601	41	626	66
577	17	602	42	627	67
578	18	603	43	628	68
579	19	604	44	629	69
580	20	605	45	630	70
581	21	606	46	631	71
582	22	607	47	632	72
583	23	608	48	633	73
584	24	609	49	634	74
585	25	610	50	635	75

(19)

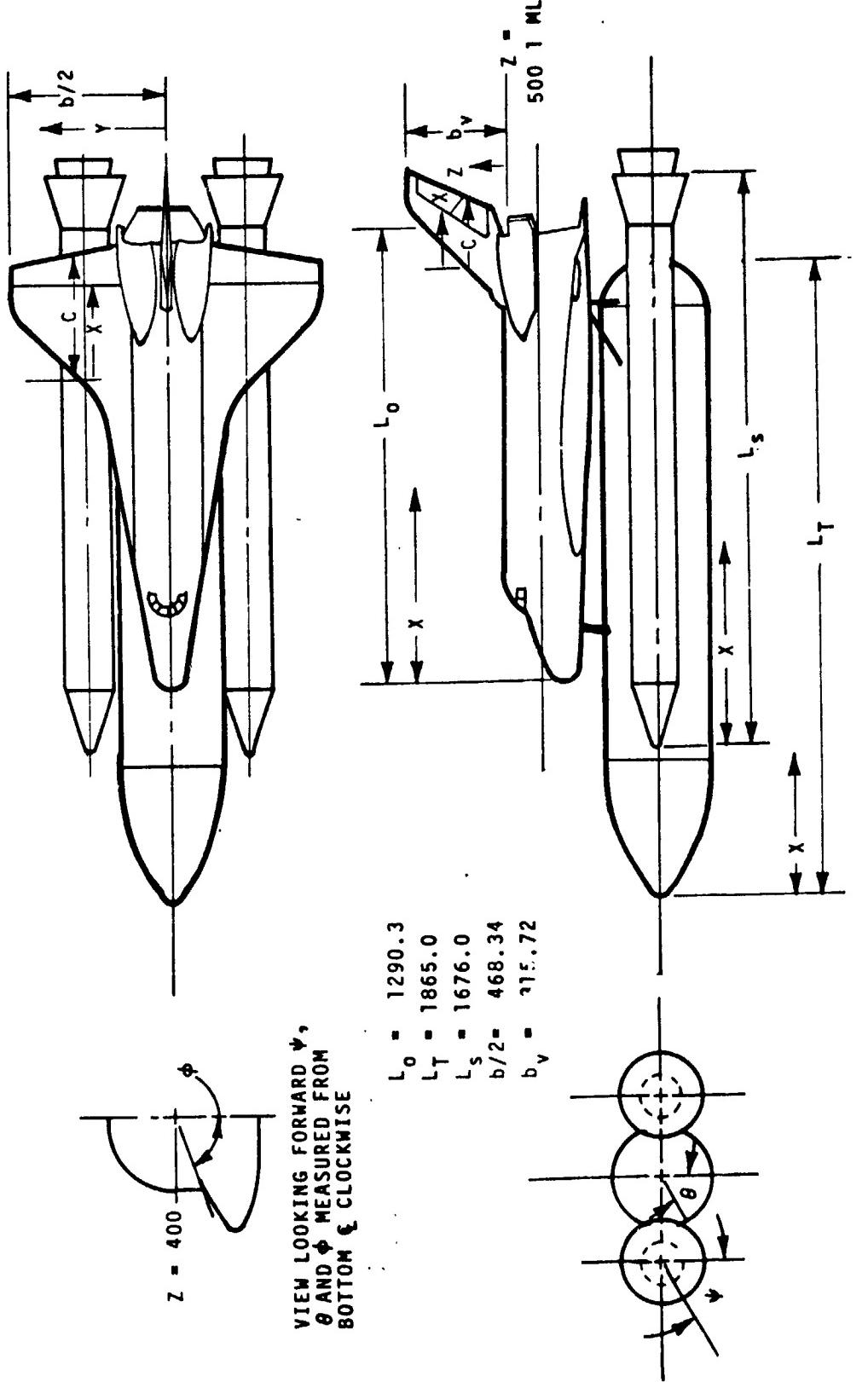
TABLE IX.  
RUN NUMBER/TUNNEL CONDITION SUMMARY

Run #	$Re_{\infty}/ft$ $\times 10^6$	PT (psi)	TT (°R)	HT (BTU/lb <sub>m</sub> )
3	1.4909	165.58	1581.2	390.90
5	1.4111	141.88	1487.5	366.19
7	1.3945	119.68	1348.1	329.90
8	1.4341	120.04	1277.2	324.51
9	1.4762	122.81	1322.1	323.19
10	1.4540	118.76	1306.9	319.30
11	1.4993	121.26	1298.8	317.22
12	4.7266	405.72	1348.2	329.94
13	5.0370	405.98	1296.0	316.50
14	4.9672	403.68	1302.8	318.23
15	4.9723	405.35	1305.4	318.89
16	4.9533	406.35	1310.5	320.21
17	5.0060	405.69	1300.5	317.64
18	5.0979	404.88	1284.1	313.43
19	1.4998	122.63	1307.7	319.50
20	1.5374	121.33	1278.9	312.11
21	1.5232	122.04	1291.2	315.26
22	1.4696	122.08	1320.8	322.87
23	1.6062	119.90	1234.9	300.85
24	1.5275	122.10	1289.3	314.76
25	1.5757	119.48	1247.1	303.98
26	4.9504	405.67	1309.6	319.98
27	4.9770	406.03	1305.9	319.04
28	4.9574	405.59	1308.3	319.64
29	4.9770	406.32	1306.5	319.19
30	5.0055	406.22	1301.6	317.93
31	5.0063	406.42	1301.9	318.01
32	5.0389	406.71	1297.2	316.80
33	5.0961	405.17	1285.0	313.65
34	4.9856	405.20	1302.8	318.24
35	5.0750	405.72	1289.4	314.80
36	5.0306	406.14	1297.4	316.85
37	5.1486	401.85	1270.1	309.85
38	5.0550	406.03	1293.2	315.78
39	5.0452	406.22	1295.2	316.28
40	1.6365	130.40	1286.8	314.12

TABLE IX.  
(Concluded)

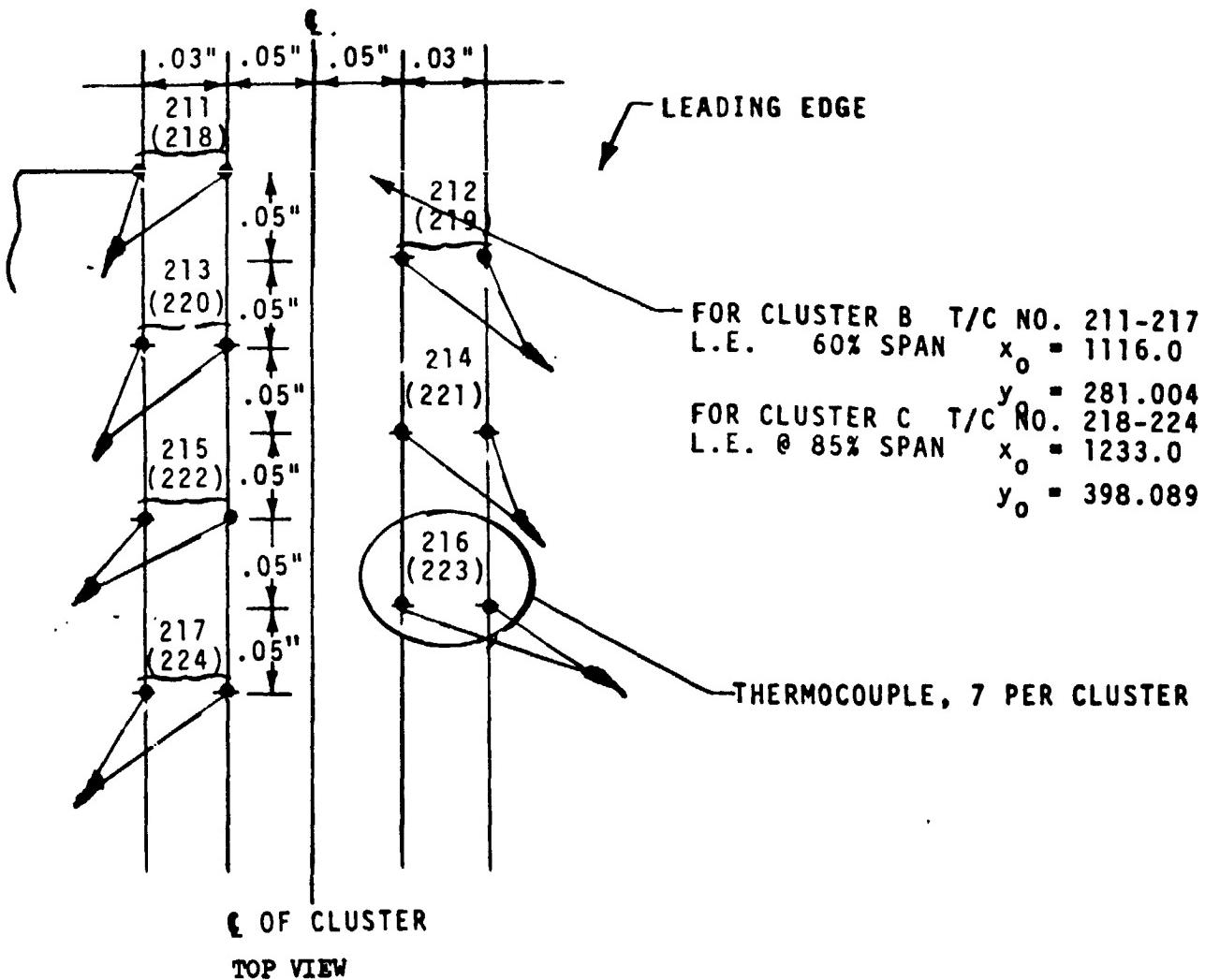
Run #	$Re_{\infty}/ft$ $\times 10^6$	PT (psi)	TT (°R)	HT (BTU/lb <sub>m</sub> )
41	1.5819	126.58	1290.2	314.99
42	1.5224	122.73	1296.2	316.55
43	1.5160	123.06	1301.8	317.99
44	5.1123	406.40	1284.8	313.62
45	5.0361	406.22	1296.7	316.66
46	5.0028	405.88	1301.4	317.87
47	5.3924	404.93	1239.5	302.03
48	1.5328	123.06	1292.8	315.67
49	1.5263	122.69	1293.9	315.94
50	1.4308	118.69	1319.7	322.57
51	1.4952	121.64	1303.6	318.44
52	5.0533	405.46	1292.4	315.56
53	5.0265	406.40	1298.6	317.15
54	5.1372	405.09	1278.3	311.95
55	4.9871	402.92	1298.0	317.00
56	1.5132	121.59	1293.6	315.86
57	1.5033	121.59	1298.9	317.23
58	5.0864	405.30	1286.8	314.12
59	5.0929	405.30	1285.7	313.85
60	5.0577	405.30	1291.3	315.29
61	5.0730	405.64	1289.6	314.84
62	1.5553	137.52	1373.4	336.46
63	1.5070	123.06	1306.7	319.24
64	1.5093	122.73	1303.3	318.37
65	5.0737	406.22	1290.6	315.10
66	5.1122	406.32	1284.7	313.59
68	1.4966	120.98	1298.4	317.12
69	5.2179	406.16	1268.0	309.30
70	4.9056	407.29	1320.4	322.76
71	5.0011	406.76	1303.5	318.40
72	4.9871	403.86	1299.9	317.49
73	5.0038	405.88	1301.2	317.83
74	5.0508	406.74	1295.3	316.32
76	5.0175	406.92	1301.1	317.80
77	5.0556	410.46	1302.0	318.02
78	5.0607	406.58	1293.4	315.83
79	4.9699	406.92	1308.9	319.81

## INSTRUMENTATION LOCATION SYSTEM



a. Model instrumentation reference system

Figure 1. - Concluded.



a. Assumed Plotted Wing Leading-Edge Clusters B & C T/C Locations,  
 (Used for Plotted and Tabulated Data Presentations)

Figure 2. - Model instrumentation.

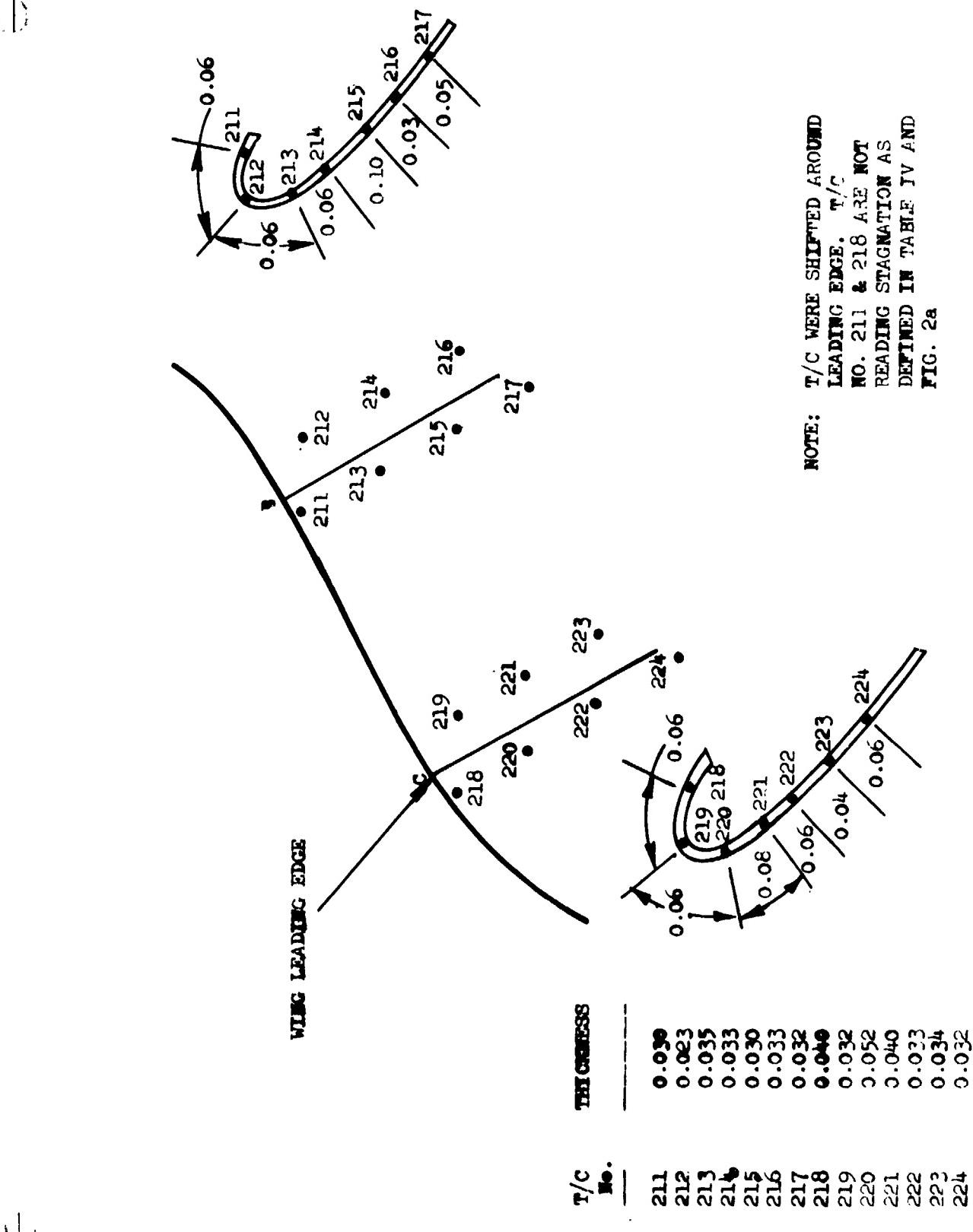
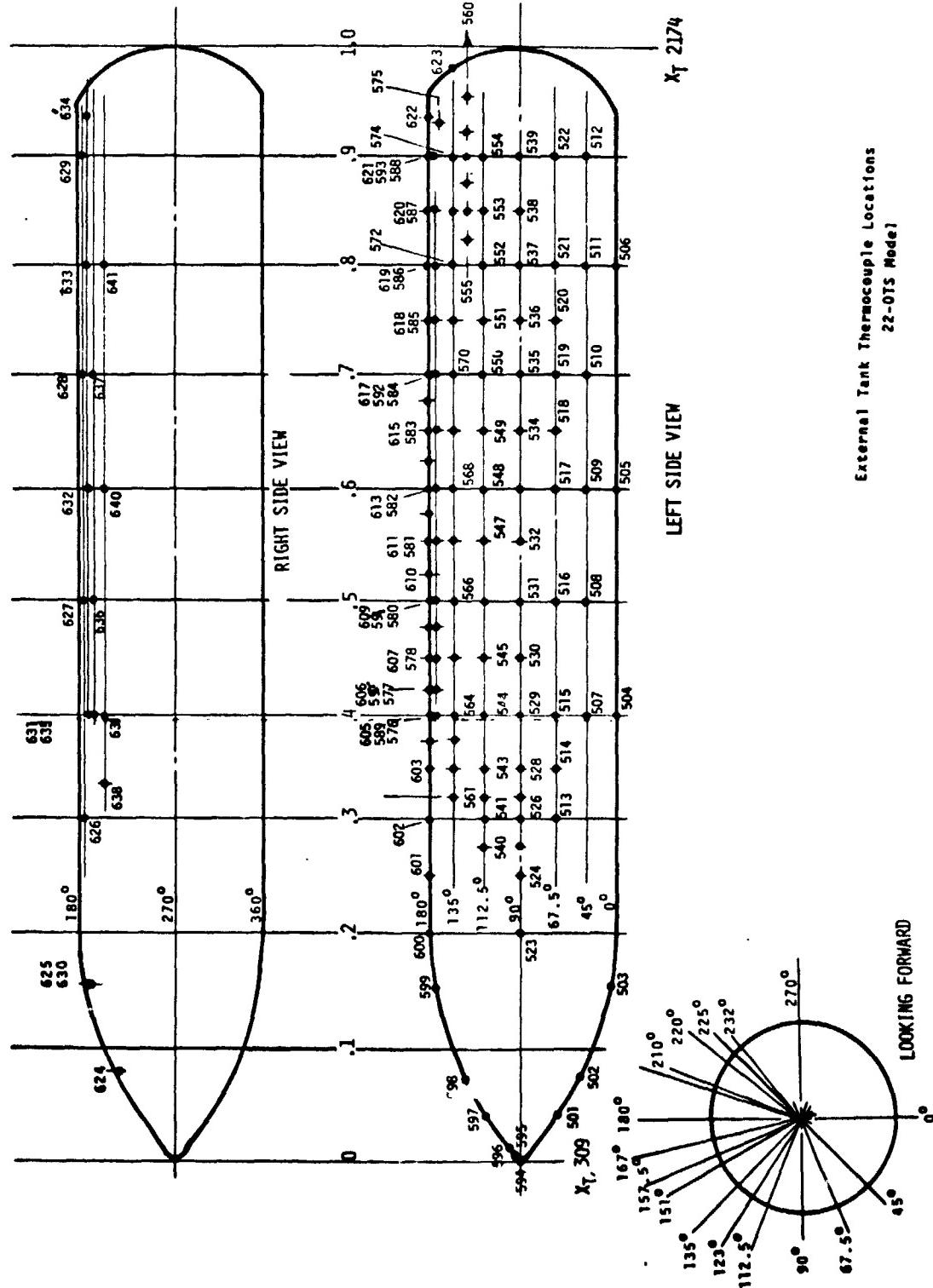


Figure 2. - Continued.

b. Actual Wing Leading Edge Clusters B & C T/C Locations and Skin Thickness (post Test Dimensional Check)

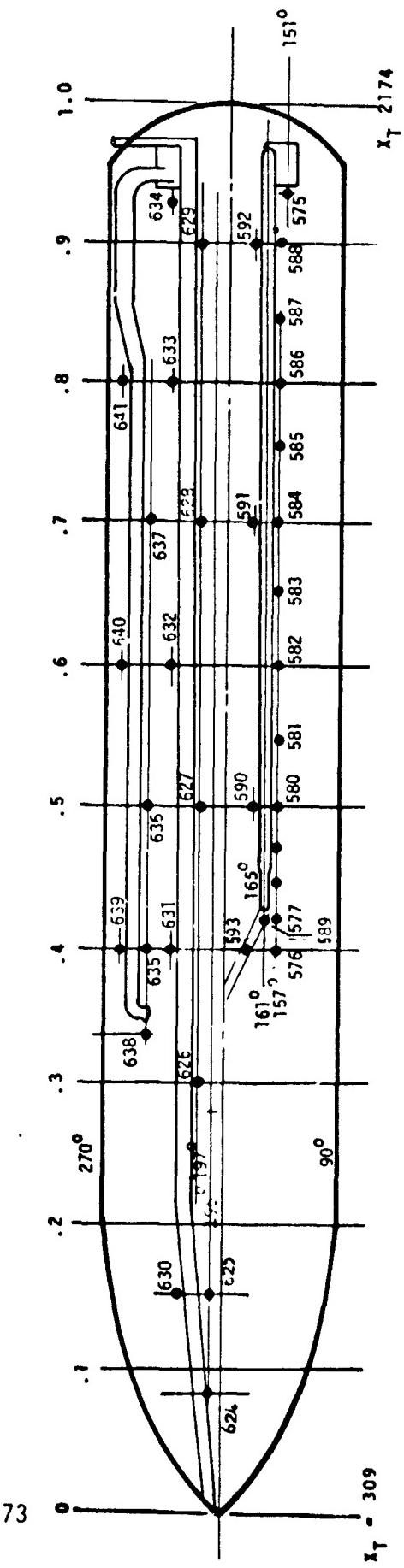


C. External Tank T/C Locations-Side Views

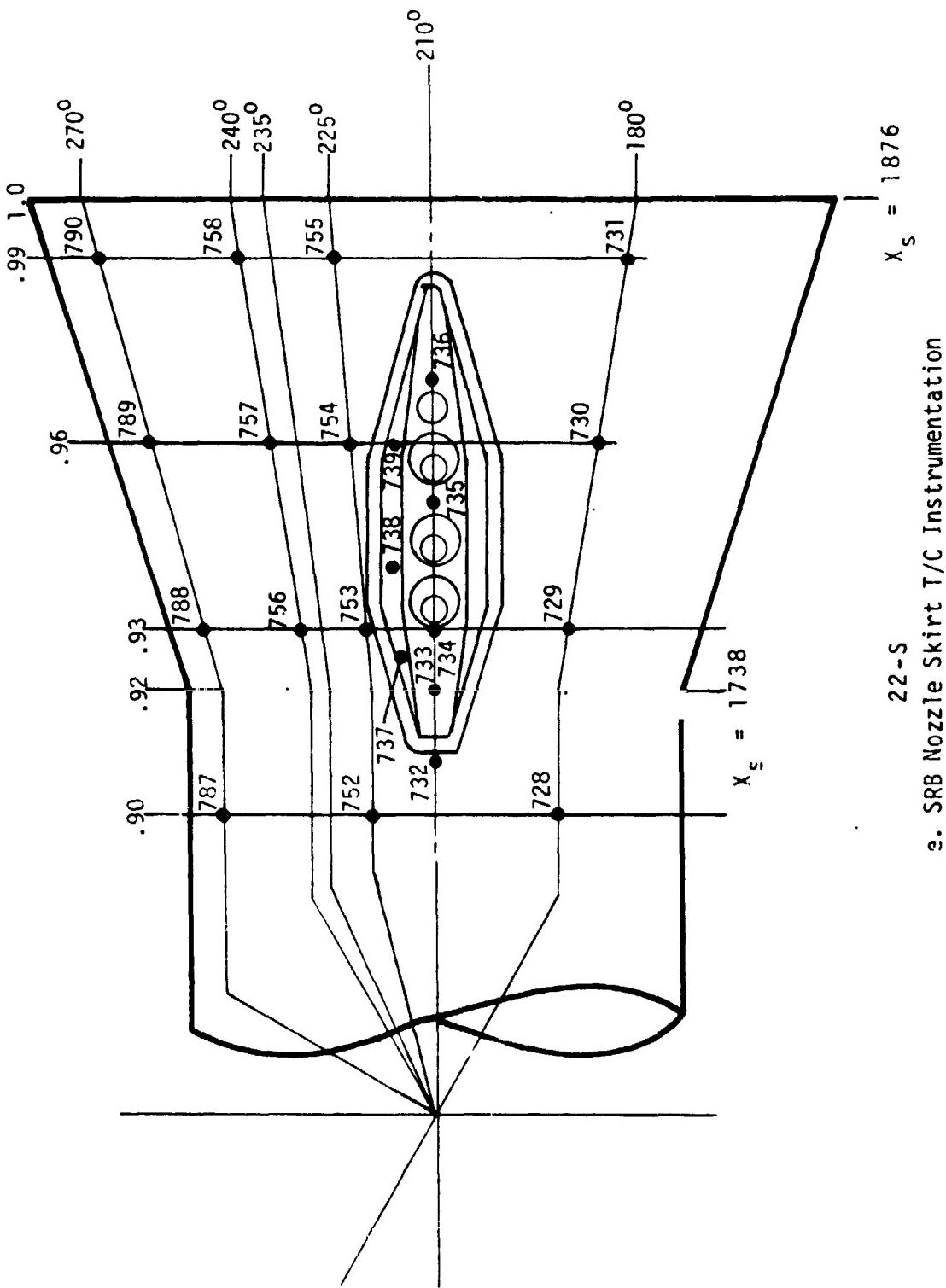
Figure 2. - Continued.

**EXTERNAL TANK THERMOCOUPLE LOCATIONS  
(LOCATIONS AROUND PLUMBING ONLY)**

**MODEL 22-OTS**



d. External Tank T/C Locations (Locations Around Plumbing Lines) Top View



e 5

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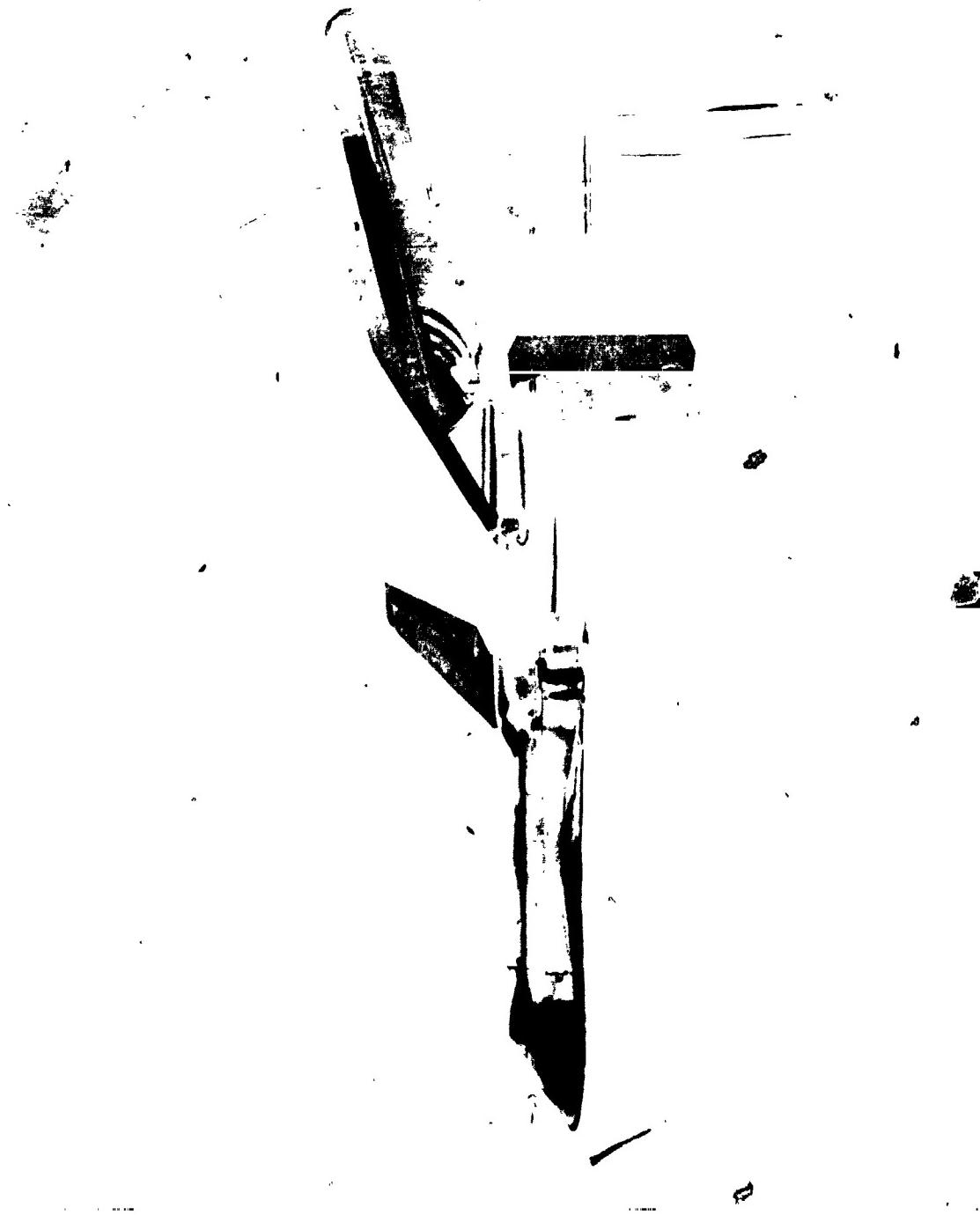
75

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

a. Mated Launch Configuration Installation

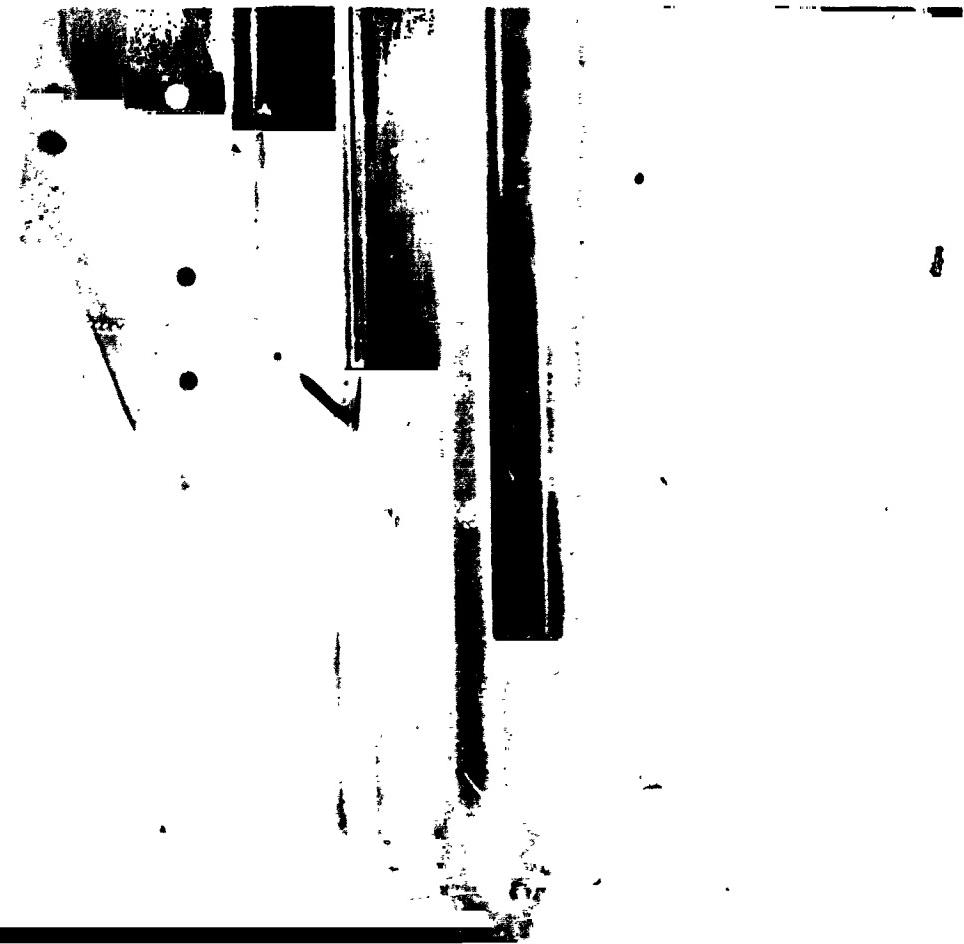
Figure 3. - Model photographs.

b. Orbiter Installation  
Figure 3. - Continued.



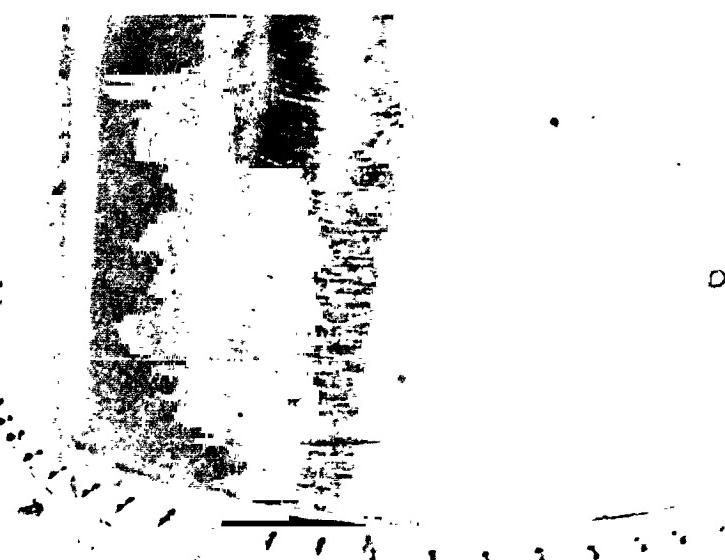
C. Mated Configuration Boundary Layer Trips

Figure 3. - Continued.



d. SRB Boundary Layer Trips

Figure 3. - Concluded.



**APPENDIX**  
**TABULATED SOURCE DATA**

**Tabulations of plotted data are available on request  
from Data Management Services**

KEY TO 4th CHARACTER OF DATASET NAME

4th Character	Location of Thermocouple
S	SRB
N	SRB Separation Nozzle
T	External Tank
B	Orbiter - Bottom C <sub>L</sub>
A	Orbiter - Top C <sub>L</sub>
C	Windows
D	Orbiter Bottom Surface
E	Orbiter Side
F	Wing Upper Crease
G	Wing Bottom
H	Clusters B & C (Wing Leading Edge)
I	Wing Top
J	OMS Bottom Crease
K	OMS Side Surface
L	OMS Top Surface
M	OMS WL 47+
Q	Leading Edge Rolled Down 30°
P	Orbiter Fuselage
V	Vertical Tail
X	Solid Booster (overlaps with "S" data but has thermocouple schedule needed for comparison with undisturbed data to compute HI/HU)

DATE 24 JAN 76

ARC 3.5-178 IH3

## SOLID BOOSTER

PAGE 1

(IRE1SO1)

ARC 3.5-178 IH3

SOLID BOOSTER

RN/L = 1.500    BETA = .0000    ALPHA = .0000    ELEVON = .0000

PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
7	5.300	.1394+07	119.7	1346.	329.9	1750.01	.2381	.0000
8	5.300	.1434+07	120.0	1327.	324.5	1750.01	.2411	.0000

\*\*\*TEST CONDITIONS\*\*\*

SOLID BOOSTER

PARAMETRIC DATA

RN/L = 1.500    BETA = .0000    ALPHA = .0000    ELEVON = .0000

PARAMETRIC DATA

TEST DATA\*\*\*

RUN NUMBER	PHI X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	POEF BTU/FT <sup>2</sup> SEC	QDOT BTU/FT <sup>2</sup> SEC	H/HFT	TW DEG. R
7	30.000	701.71	.5685	.6889	.7705	33.12	.4280	.588.4
7	90.000	702.00	.9175-01	.1110	.1240	33.41	.4231	.581.8
7	90.000	703.00	.6504-01	.7251-01	.6776-01	33.56	.4202	.1802-02
7	30.000	704.00	.5013-01	.6054-01	.6756-01	32.69	.4189	.578.4
7	30.000	705.00	.2161-01	.2608-01	.2908-01	33.84	.4155	.1388-02
7	30.000	706.00	.3826-01	.4620-01	.5155-01	33.71	.4159	.5979-03
7	30.000	707.00	.8233-01	.9935-01	.1108	33.83	.4159	.571.9
7	30.000	708.00	.3727-01	.4497-01	.5014-01	33.86	.4181	.1059-02
7	90.000	709.00	.4234-01	.5107-01	.5693-01	33.92	.4156	.572.2
7	90.000	710.00	.7770-01	.9383-01	.1047	33.69	.4147	.2278-02
7	90.000	711.00	.6926-01	.8368-01	.1140-01	33.62	.4185	.1031-02
7	90.000	712.00	.2422-01	.2917-01	.3250-01	33.61	.4162	.1171-02
7	90.000	713.00	.2989-01	.3605-01	.4021-01	33.86	.4156	.2797-02
7	93.000	714.00	.1010	.1220	.1362	33.68	.4143	.570.1
7	93.000	715.00	.9001-01	.1087	.1214	33.65	.4136	.2151-02
7	90.010	716.00	.1134	.1371	.1530	33.58	.4168	.1918-02
7	90.010	717.00	.8600-01	.1039	.1159	33.68	.4196	.576.4
7	90.010	718.00	.5116-01	.6171-01	.6891-01	33.89	.4110	.6613-03
7	90.010	719.00	.2772-01	.3350-01	.5741-01	33.55	.4157	.8267-03
7	90.020	720.00	.4250-01	.5117-01	.5699-01	33.66	.4101	.571.5
8	120.00	721.00	.5934-01	.4736-01	.5275-01	33.67	.4132	.1160-02
9	120.00	722.00	.5056-01	.6088-01	.6730-01	33.67	.4199	.554.6
9	120.00	723.00	.6503-01	.6502-01	.7242-01	33.69	.4036	.1074-02
8	180.00	724.00	.4899-01	.5897-01	.6365-01	33.74	.4088	.1380-02
8	180.00	725.00	.1868	.2248	.2502	33.83	.4072	.552.9
8	180.00	726.00	.1129	.1258	.1512	33.83	.4072	.5096-02

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DATE 24 JAN 76

ARC 3.5-178 IH3

PAGE 2

(RE1501)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 O+T+S			SOLID BOOSTER			HM/HIT	HM/HIT	TW DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	QREF BTU/ FT2SEC				
8	180.00	85000	727.00	.6912-01	.8315-01	.9255-01	33.82	2.337	4075	551.1	.1885-02		
8	180.00	90000	728.00	.4846-01	.5329-01	.6486-01	33.86	1.641	4067	550.0	.1322-02		
8	180.00	93000	729.00	.1561	.1877	.2089	33.83	5.280	4072	550.7	.4256-02		
8	180.00	96000	730.00	.1019	.1226	.1355	33.81	3.445	4076	551.2	.2780-02		
8	180.00	99000	731.00	.7267-01	.8745-01	.9735-01	33.77	2.454	4083	552.2	.1983-02		
8	210.00	90400	732.00	.3579-01	.4305-01	.4790-01	33.88	1.213	4065	549.7	.9760-03		
8	225.00	75000-01	740.00	.7847-01	.9437-01	.1050	33.87	2.658	4065	549.8	.214-02		
8	225.00	10000+00	741.00	.3723-01	.4416-01	.4980-01	33.90	1.262	4061	549.2	.1015-02		
8	225.00	15000	742.00	.6225-01	.7480-01	.8319-01	34.02	2.117	4041	546.5	.1696-02		
8	225.00	20000	743.00	.3809-01	.4578-01	.5092-01	33.98	1.294	4047	547.4	.1036-02		
7	225.00	30000	744.00	.1832-01	.2222-01	.2468-01	33.75	6.184	4175	574.0	.507-03		
8	225.00	40000	745.00	.1847-01	.2223-01	.2474-01	33.79	6.242	4079	561.7	.5039-03		
8	225.00	50000	746.00	.4452-01	.5358-01	.5965-01	33.75	1.503	4085	552.5	.1215-02		
8	225.00	60000	747.00	.6347-01	.7637-01	.9500-01	33.80	2.145	4078	551.5	.173-02		
8	225.00	70000	748.00	.5720-01	.6883-01	.7662-01	33.79	1.933	4080	551.8	.1560-02		
8	225.00	80000	750.00	.1534	.1844	.2051	33.93	5.203	4056	548.6	.4181-02		
8	225.00	85000	751.00	.5756-01	.6921-01	.7701-01	33.91	1.952	4059	548.9	.1569-02		
7	225.00	90000	752.00	.1485-01	.1790-01	.1995-01	33.98	1.952	4059	568.7	.4105-02		
8	225.00	93000	753.00	.1589	.1911	.2127	33.82	5.373	4074	551.0	.4333-02		
8	225.00	96000	754.00	.6454-01	.7765-01	.8643-01	33.79	2.181	4079	551.7	.1760-02		
8	225.00	99000	755.00	.5681-01	.6837-01	.7612-01	33.73	1.916	4089	553.0	.1550-02		
8	240.00	93000	756.00	.5202-01	.6258-01	.6966-01	33.81	1.759	4076	551.3	.1419-02		
8	240.00	96000	757.00	.5139-01	.6.84-01	.6984-01	33.76	1.735	4084	552.3	.1402-02		
8	240.00	99000	758.00	.2670-01	.3215-01	.3580-01	33.68	.8992	4098	554.2	.7287-03		
7	247.50	30000	759.00	.1208-01	.1457-01	.1625-01	33.85	4.088	4158	571.6	.3341-03		
8	247.50	40000	760.00	.4040-01	.4859-01	.5407-01	33.85	1.368	4069	550.3	.1102-02		
8	247.50	50000	761.00	.7059-01	.8433-01	.9453-01	33.80	2.386	4077	551.4	.1926-02		
8	247.50	60000	762.00	.5148-01	.6.84-01	.6882-01	33.83	1.742	4072	550.7	.1404-02		
8	247.50	65000	763.00	.5480-01	.6594-01	.7339-01	33.60	1.852	4077	551.4	.1495-02		
8	247.50	70000	764.00	.5583-01	.6716-01	.7475-01	33.83	1.889	4072	550.8	.1523-02		
8	247.50	75000	765.00	.5523-01	.6642-01	.7392-01	33.86	1.870	4067	550.0	.1506-02		
8	270.00	20000-02	767.00	.6884	.8302	.9255	33.39	22.99	4146	560.8	.1881-01		
8	270.00	25000-01	768.00	.1704	.2052	.2265	33.63	5.729	4106	555.3	.4651-02		
8	270.00	50000-01	769.00	.9659-01	.1162	.1294	33.79	3.263	4080	551.8	.2635-02		
8	270.00	75000-01	770.00	.5369-01	.6457-01	.7185-01	33.87	1.819	4065	549.7	.1464-02		
8	270.00	10000+00	771.00	.1003	.1205	.1341	33.92	3.401	4058	548.8	.2733-02		
8	270.00	110000	772.00	.4923	.5918	.6584	33.95	16.71	4052	548.1	.1342-01		
8	270.00	130000	777.00	.1402	.1684	.1872	34.11	4.782	4025	544.3	.3819-02		
8	270.00	150000	774.00	.9384-01	.1127	.1253	34.10	3.200	4027	544.6	.2556-02		
8	270.00	200000	775.00	.4815-01	.5784-01	.6432-01	34.05	1.639	4035	545.7	.1312-02		
8	270.00	250000	776.00	.2671-01	.3211-01	.3572-01	33.94	.5065	4054	548.3	.7281-03		
8	270.00	300000	777.00	.1754-01	.2110-01	.2548-01	33.87	.5942	4066	549.8	.4784-03		
8	270.00	400000	778.00	.2837-01	.3413-01	.3759-01	33.81	.9593	4075	551.1	.7738-03		

DATE 24 JAN 76

ARC 3.5-178 IH3

PAGE  
3  
(REF ISO1)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 O+T+S		SOLID BOOSTER		HW/HIT	TW DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT2SEC	QDOT BTU/FT2SEC			
8	270.00	.50000	779.00	.4449-01	.5352-01	.5956-01	.33.82	.4074	.551.1	.123-02
8	270.00	.60000	780.00	.4727-01	.5686-01	.6329-01	.33.81	.4075	.551.2	.1289-02
8	270.00	.65000	781.00	.4714-01	.5670-01	.6310-01	.33.83	.4073	.550.8	.1286-02
8	270.00	.70000	782.00	.4484-01	.5393-01	.6002-01	.33.85	.4069	.550.3	.1223-02
6	270.00	.75000	783.00	.5158-01	.6203-01	.6902-01	.33.68	.4065	.549.7	.1406-02
8	270.00	.78000	784.00	.2643	.3179	.3535	.33.90	.4061	.549.2	.7207-02
8	270.00	.80000	785.00	-.1990-03	-.2433-03	-.2738-03	.31.26	.4509	.609.8	.5503-05
8	270.00	.82000	786.00	.1248-01	.1501-01	.1670-01	.33.87	.4226	.4066	.549.9
8	270.00	.90000	787.00	.1233-01	.1483-01	.1650-01	.33.86	.4176	.4067	.3403-03
8	270.00	.93000	788.00	.1722-01	.2072-01	.2307-01	.33.75	.5811	.4086	.3363-03
8	270.00	.96000	789.00	.1702-01	.2049-01	.2282-01	.33.69	.5735	.4095	.4698-13
8	270.00	.99000	790.00	.2774-01	.3340-01	.3720-01	.33.64	.9331	.4105	.4645-03
8	315.00	.30000	791.00	.1737-01	.2090-01	.2326-01	.33.77	.5865	.4082	.552.1
7	315.00	.50000	792.00	.2984-01	.3596-01	.4008-01	.34.04	.1.016	.4127	.8247-03
8	315.00	.70000	793.00	.1432-01	.1723-01	.1918-01	.33.78	.4938	.4080	.3906-03
8	315.00	.78000	794.00	.5687-01	.6842-01	.7615-01	.33.81	.1.923	.4076	.551.2
8	315.00	.80000	795.00	.7459-01	.8974-01	.9988-01	.33.81	.2.522	.4075	.2035-02
8	315.00	.90000	796.00	.1762-01	.1640-01	.1826-01	.33.69	.4589	.4097	.3718-03
8	315.00	.93000	797.00	.2477-01	.3309-01	.3686-01	.3.61	.9231	.4110	.7500-03
8	315.00	.99000	798.00	.2073-01	.2497-01	.2782-01	.33.56	.6956	.557.0	.5660-03

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ARC 3.5-178 1H3

## SOLID BOOSTER

ARC 3.5-178 1H3

SOLID BOOSTER

PAGE 4  
(RE1502)

RN/L = 5.000    BETA = .0000    ALPHA = .0000    ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.
13	5.300	.5037+07	406.0	1296.1	316.5	.1750-01	.8271	.0000
14	5.300	.4967+07	403.7	1303.1	318.2	.1750-01	.8198	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X'L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	GREF R=0.85	GDT FT2SEC	HW/HT	TH DEG. R	STN NO R=0.9
14	90.000	.00700-01	701.00	.4625	.5731	.6509	.52.90	24.47	.4819	.6972-02
14	90.000	.25000-01	702.00	.8045-01	.9920-01	.1123	.54.08	.4.351	.4708	.1208-02
14	90.000	.50000-01	703.00	.5763-01	.7076-01	.7986-01	.55.09	.3.175	.4612	.8618-03
14	90.000	.10000-00	704.00	.4610-01	.5632-01	.6335-01	.56.35	.2.597	.4492	.6864-03
14	90.000	.40000-00	705.00	.4656-01	.5642-01	.6311-01	.58.58	.2.728	.4280	.6885-03
14	90.000	.70000	706.00	.3528-01	.4263-01	.4796-01	.58.12	.2.050	.4324	.5224-03
14	90.000	.78000	707.00	.686E-01	.8327-01	.9317-01	.58.44	.4.014	.4293	.1016-02
14	90.000	.80000	708.00	.4785-01	.5800-01	.6488-01	.58.52	.2.800	.4286	.7077-03
14	90.000	.90000	709.00	.4850-01	.5872-01	.6564-01	.58.82	.2.853	.4257	.7166-03
14	90.000	.93000	710.00	.8941-01	.1087	.1219	.57.68	.5.157	.4366	.1326-02
14	90.000	.99000	711.00	.9676-01	.1179	.1324	.56.98	.5.513	.4432	.1438-02
14	90.000	.70000	712.00	.6327-01	.7646-01	.8536-01	.59.22	.3.747	.4204	.9276-03
13	135.00	.90000	713.00	.3224-01	.3912-01	.4379-01	.58.23	.1.877	.4313	.4772-03
14	135.00	.93000	714.00	.1354	.1648	.1849	.57.32	.7.762	.4399	.2010-02
14	135.00	.99000	715.00	.1242	.1513	.1699	.56.98	.7.075	.4432	.587.8
14	180.00	.50000-01	716.00	.1087	.1334	.1506	.55.02	.5.978	.4618	.612.5
14	180.00	.10000+00	717.00	.8357-01	.1022	.1115	.56.03	.4.683	.4522	.599.7
14	180.00	.20000	718.00	.6294-01	.7649-01	.8571-01	.57.79	.3.637	.4355	.9329-03
14	180.00	.40000	719.00	.2704-01	.3300-01	.3708-01	.56.70	.1.533	.4459	.591.4
13	180.00	.50000	720.00	.1022	.1235	.1379	.59.28	.6.060	.4198	.553.7
13	180.00	.60000	721.00	.7790-01	.9422-01	.1052	.58.99	.4.596	.4225	.557.4
13	180.00	.65000	722.00	.8485-01	.1026	.1146	.59.03	.5.009	.4221	.556.8
13	180.00	.70000	723.00	.9748-01	.8064-01	.1089	.59.12	.4.767	.4213	.555.7
13	180.00	.75000	724.00	.7492-01	.9047-01	.1009	.59.46	.4.455	.4181	.551.4
13	180.00	.78000	725.00	.2464	.2973	.3316	.59.67	.14.70	.4161	.548.9
13	180.00	.80000	726.00	.1382	.1668	.1861	.59.54	.0.226	.4173	.550.5

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ARC 3.5-178 IH3

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(REFS02)

RUN NUMBER	T-11	X/L	T/C NO	ARC 3.5-178 IH3 0+T+S			SOLID BOOSTER			H/H REF R=0.9	H/H REF R=0.85	H/H REF R=0.8	COOT BTU/FT2SEC	COOT BTU/FT2SEC	COOT BTU/FT2SEC	STN NO R=0.9
				H/H REF R=1.0	H/H REF R=1.0	H/H REF R=1.0	H/H REF R=1.0	H/H REF R=1.0	H/H REF R=1.0							
13	180.00	.65000	727.00	.1377	.1661	.1852	.59.61	.8.239	.4147						.2016-02	
13	160.00	.90700	728.00	.6384-01	.7696-01	.8577-01	.59.96	.3.828	.4134						.9340-03	
13	180.00	.93000	729.00	.1790	.2161	.2410	.59.63	.10.68	.4165						.2622-02	
13	180.00	.96000	730.00	.1146	.1383	.1543	.59.51	.6.819	.4176						.1679-02	
13	180.00	.99000	731.00	.9855-01	.1191	.1329	.59.32	.5.816	.4195						.1444-02	
13	210.00	.50400	732.00	.6130-01	.7392-01	.8240-01	.59.86	.3.670	.4143						.8971-03	
13	225.00	.75000-01	740.00	.8254-01	.1000	.1118	.58.75	.4.855	.4248						.1213-02	
13	225.00	.10000+00	741.00	.7331-01	.8867-01	.9904-01	.58.98	.u.324	.4227						.1076-02	
13	225.00	.15000	742.00	.5812-01	.7011-01	.7818-01	.59.75	.3.473	.4154						.9503-03	
13	225.00	.20000	743.00	.4169-01	.5031-01	.5612-01	.59.64	.2.487	.4163						.6105-03	
14	225.00	.30700	744.00	.2612-01	.3191-01	.3582-01	.57.06	.1.494	.4424						.3890-03	
13	225.00	.40000	745.00	.3082-01	.3722-01	.4154-01	.59.41	.1.831	.4186						.4516-03	
13	225.00	.50000	746.00	.7900-01	.9536-01	.1064	.59.57	.4.706	.4170						.1157-02	
13	225.00	.60000	747.00	.1086	.1310	.1662	.59.63	.6.475	.4164						.1590-02	
13	225.00	.70000	748.00	.8975-01	.1082	.1206	.59.94	.5.379	.4136						.1313-02	
13	225.00	.80000	750.00	.1215	.1462	.1628	.60.47	.7.347	.4085						.1775-02	
13	225.00	.85000	751.00	.8611-01	.1036	.1154	.60.43	.5.203	.4089						.1258-02	
14	225.00	.90000	752.00	.1410-01	.1710-01	.1913-01	.58.41	.8236	.4297						.2086-03	
13	225.00	.93000	753.00	.1586	.1915	.2137	.59.42	.9.423	.4184						.2323-02	
13	225.00	.96000	754.00	.5595-01	.6760-01	.7546-01	.59.28	.3.317	.4198						.8201-03	
13	225.00	.99000	755.00	.5474-01	.6618-01	.7391-01	.59.07	.3.233	.4218						.8029-03	
13	240.00	.93000	756.00	.4971-01	.6003-01	.6699-01	.59.40	.2.953	.4186						.539.4	
13	240.00	.96000	757.00	.5253-01	.6349-01	.7089-01	.59.15	.3.107	.4210						.7702-03	
13	240.00	.99000	758.00	.2683-01	.3246-01	.3627-01	.58.85	.1.579	.4239						.3937-03	
14	247.50	.70000	759.00	.1677-01	.2040-01	.2288-01	.57.45	.9.633	.4388						.2498-03	
13	247.50	.40000	760.00	.5853-01	.7064-01	.7879-01	.59.62	.3.490	.4166						.8572-03	
13	247.50	.50000	761.00	.5432-01	.6551-01	.7302-01	.59.85	.3.251	.4144						.7950-03	
13	247.50	.60000	762.00	.6533-01	.7876-01	.8779-01	.59.91	.3.914	.4138						.9559-03	
13	247.50	.65000	763.00	.8174-01	.9854-01	.1098	.59.93	.4.898	.4137						.1196-02	
13	247.50	.70000	764.00	.8017-01	.9663-01	.1077	.60.01	.6.911	.4129						.1173-02	
13	247.50	.75000	765.00	.1115	.1343	.1453	.60.18	.6.708	.4113						.1630-02	
13	270.00	.20000-02	767.00	.6849	.8367	.9410	.56.22	.38.50	.4489						.1013-01	
13	270.00	.25000-01	768.00	.1797	.2188	.2454	.57.22	.10.28	.4393						.2651-02	
13	270.00	.30000-01	769.00	.1134	.1376	.1511	.58.04	.6.583	.4315						.1669-02	
13	270.00	.75000-01	770.00	.6677-01	.8089-01	.9015-01	.58.52	.3.908	.4270						.9810-03	
13	270.00	.10000+00	771.00	.2241	.2713	.3032	.58.76	.1.2.17	.4248						.3290-02	
13	270.00	.11000	772.00	.6078	.7354	.8216	.58.89	.35.79	.4235						.8920-02	
13	270.00	.13000	773.00	.1102	.1329	.1482	.59.77	.6.585	.4151						.1613-02	
13	270.00	.15000	774.00	.1200	.1445	.1610	.60.10	.7.210	.4120						.1754-02	
13	270.00	.20000	775.00	.5534-01	.6669-01	.7431-01	.60.05	.3.323	.4125						.8094-03	
13	270.00	.25000	776.00	.3618-01	.3677-01	.4101-01	.59.70	.1.820	.4158						.4462-03	
13	270.00	.30000	777.00	.1765-01	.2130-01	.2376-01	.59.58	.1.051	.4170						.2584-03	
13	270.00	.40000	778.00	.4030-01	.4863-01	.5423-01	.59.70	.2.406	.4158						.5901-03	

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ARC 3.5-178 IH3

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(REC 1502)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 O+T+S			SOLID BOOSTER			TH DEG.	R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	GREF FT2SEC	QDOT BTU/ FT2SEC	H/HHT			
13	270.00	.50000	779.00	.5088-01	.6135-01	.6839-01	59.87	3.046	.4142	546.4	.7445-03	
13	270.00	.60000	780.00	.5728-01	.6908-01	.7700-01	59.86	3.429	.4143	546.5	.8383-03	
13	270.00	.65000	781.00	.4107-01	.4950-01	.5515-01	60.05	2.466	.4125	544.1	.6000-03	
13	270.00	.70000	782.00	.4299-01	.5179-01	.5769-01	60.18	2.587	.4113	542.5	.6288-03	
13	270.00	.75000	783.00	.1014	.1221	.1360	60.33	6.119	.4099	540.6	.1488-02	
13	270.00	.78000	784.00	.3708	.4462	.4967	60.47	22.42	.4085	538.8	.5417-02	
13	270.00	.80000	785.00	.2958-13	.3634-13	.4103-13	54.81	-1.1621-11	.4623	609.8	-4.398-15	
13	270.00	.85000	786.00	.1610-01	.1940-01	.2161-01	60.15	.9684	.4115	542.8	.2354-03	
13	270.00	.90000	787.00	.1910-01	.2301-01	.2563-01	60.22	1.150	.4109	542.0	.2793-03	
13	270.00	.93000	788.00	.3210-01	.3875-01	.4324-01	59.47	1.903	.4180	551.4	.4702-03	
13	270.00	.96000	789.00	.2522-01	.3049-01	.3409-01	59.13	1.491	.4213	555.7	.3698-03	
13	270.00	.99000	790.00	.3311-01	.4007-01	.4477-01	59.79	1.946	.4244	559.8	.4860-03	
13	315.00	.30000	791.00	.3424-01	.4132-01	.4609-01	59.64	2.042	.4164	549.3	.5014-03	
13	315.00	.50000	792.00	.4603-01	.5569-01	.6223-01	59.03	2.717	.4238	562.0	.6797-03	
13	315.00	.70000	793.00	.2146-01	.2586-01	.2881-01	60.09	1.289	.4121	543.6	.3138-03	
13	315.00	.78000	794.00	.7977-01	.9602-01	.1069	60.40	4.818	.4052	539.7	.1168-02	
13	315.00	.60000	795.00	.1327	.1598	.1780	60.22	7.988	.4109	542.0	.1939-02	
13	315.00	.90000	796.00	.1467-01	.1771-01	.1975-01	59.61	.8744	.4167	549.6	.2148-03	
13	315.00	.93000	797.00	.4122-01	.4990-01	.5577-01	58.73	2.421	.4250	560.6	.6052-03	
13	315.00	.99000	798.00	.2907-01	.3523-01	.3940-01	58.40	1.697	.4282	564.8	.4272-03	

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

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ARC 3.5-178 IH3

PAGE 7

(RE1503)

## SOLID BOOSTER

ARC 3.5-178 IH3 O+T+S (TRIPS)

PARAMETRIC DATA

RN/L = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOEL SLUG/FT2SEC	ALPHA DEG.
24	5.300	.1528+07	122.1	1289.	314.8	.1750-01	.2495	.0000
25	5.300	.1528+07	122.1	1289.	314.8	.1750-01	.2495	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HW/HIT	HW DEG. R	STN NO R=0.9	
24	90.000	.000000	701.00	*7128	*8035	3C-2U	17.264	*457	599.3	1.5684-C2	
24	90.000	.250000-01	702.00	*0858	*1180	30.523	2.629	*451	591.1	2.2U771 C3	
24	90.000	.500000-01	703.00	*0620	*0757	3C.525	*914	*445	584.4	1.6662E-C3	
24	90.000	.105000+00	704.00	*1021	*0850	31.427	*830	*439	575.7	1.1203E-C4	
24	90.000	.400000	705.00	*365	*363	31.492	1.150	*434	569.7	4.7145E-04	
24	90.000	.700000	706.00	*0365	*0443	31.489	1.148	*434	565.8	4.7573E-C4	
24	90.000	.780000	707.00	*0785	*1072	31.665	*496	*432	566.2	2.1L89E-03	
24	90.000	.850000	708.00	*0368	*0467	31.655	*165	*431	566.0	9.1399E-04	
24	90.000	.900000	709.00	*0434	*0526	*0589	*377	*430	566.4	1.1547E-C3	
24	90.000	.930000	710.00	*1779	*1059	31.529	2.456	*434	560.8	2.037E-C3	
24	90.000	.990000	711.00	*0725	*0936	*C+93	*423	*435	570.6	1.0321E-03	
25	135.00	.700000	712.00	*0202	*0248	*C279	*769	*581	579.4	5.3935E-04	
24	135.00	.900000	713.00	*0307	*C312	-C417	31.691	*972	566.4	4.1994E-04	
24	135.00	.930000	714.00	*0711	*1179	*1421	31.533	*C63	562.6	2.1584E-C3	
24	135.00	.990000	715.00	*0849	*1021	*1152	31.468	*671	570.2	2.0214E-C3	
24	180.00	.500000-01	716.00	*1113	*1358	*1526	30.672	*437	523.9	2.59CC-E-03	
24	180.00	.10000+00	717.00	*C716	*0672	*0978	31.174	*232	*440	577.0	1.494E-C3
24	180.00	.200000	718.00	*C336	*C471	*C228	*576	*433	567.8	1.0387E-C3	
24	180.00	.400000	719.00	*0218	*C266	*C298	J1.210	*681	*439	576.1	5.4999E-04
24	180.00	.500000	720.00	*0644	*0787	*C886	*29.122	*875	571.2	1.7150E-02	
24	180.00	.600000	721.00	*0393	*C406	*C460	2E.945	*965	*454	515.4	8.8981E-04
24	180.00	.650000	722.00	*0473	*0579	*0653	2E.935	*369	*454	575.6	1.2619E-03
24	180.00	.700000	723.00	*C459	*C611	*C612	2E.947	*445	*454	575.3	1.33C7E-03
24	180.00	.750000	724.00	*0451	*C512	*C614	25.031	*309	*453	571.4	1.2C12E-03
24	180.00	.780000	725.00	*2066	*4562	*2016	25.110	*956	*451	571.5	5.4494E-03
24	180.00	.800000	726.00	*1088	*1331	*1492	29.073	*164	*452	512.4	2.8553E-C2

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ARC 3.5-178 IH3

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(REF 1503)

RUN NUMBER	PHI	X/L	ARC 3.5-178 IH3 O+T+S (TRIPS)			SOLID BOOSTER			MM/HT	TW DEG. R	STN NO R=0.9
			T/C NC	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF FT2SEC	QDOT BTU/FT2SEC			
25	180.00	.65000	727.00	.0755	.0317	.1099	.29.1.72	.2.331	.450	570.1	2.1273E-03
25	180.00	.90000	728.00	.C459	.C561	.0631	.25.264	.1.344	.448	567.9	1.222E-C2
25	180.00	.93000	729.00	.1498	.1812	.2662	.25.090	.6.359	.452	572.0	3.9312E-03
25	180.00	.96000	730.00	.C557	.1171	.1218	.49.041	.2.779	.452	573.1	2.5494E-03
25	180.00	.99000	731.00	.0619	.0631	.0935	.29.017	.1.970	.453	573.7	1.8C95E-03
25	210.00	.90400	732.00	.C38C	.C427	.25.285	.0.511	.448	.2773E-04	567.5	
25	225.00	.75000-01	740.00	.0776	.0745	.1661	.25.564	.2.293	.443	561.0	2.0597E-C2
25	225.00	.10000+30	741.00	.0217	.0337	.C778	.29.603	.6.819	.442	560.1	7.3456E-04
25	225.00	.15000	742.00	.C524	.C671	.071	.29.732	.1.557	.44C	557.1	1.3892E-C3
25	225.00	.20000	743.00	.C395	.0481	.0540	.49.648	.1.170	.441	556.0	1.0475E-C3
25	225.00	.30000	744.00	.0213	.0210	.0236	.31.369	.0.563	.436	572.0	6.6446E-04
25	225.00	.40000	745.00	.C174	.C21C	.C236	.29.255	.6.03	.448	568.2	4.5741E-04
25	225.00	.50000	746.00	.C537	.C656	.0738	.25.1CB	.1.562	.451	571.6	1.4291E-03
25	225.00	.60000	747.00	.0681	.0822	.C937	.29.171	.1.988	.45C	570.1	1.8146E-03
25	225.00	.70000	748.00	.C591	.C722	.C813	.25.1C9	.1.170	.451	571.5	1.5735E-02
25	225.00	.80000	749.00	.1149	.1404	.1479	.29.201	.3.355	.449	569.4	3.0585E-03
25	225.00	.65000	750.00	.0674	.0623	.0925	.29.312	.1.975	.447	576.8	1.7922E-03
25	225.00	.90000	751.00	.C137	.C160	.C186	.31.748	.6.415	.430	563.48	3.6035E-04
25	225.00	.93000	752.00	.1537	.1811	.2113	.29.173	.4.483	.45C	570.1	4.0913E-03
25	225.00	.96000	753.00	.C555	.C6CC	.C901	.25.145	.1.098	.45C	570.7	1.7434E-C3
25	225.00	.99000	754.00	.C575	.C7C3	.C792	.25.087	.1.673	.452	572.1	1.5322E-3
25	240.00	.93000	756.00	.0404	.0494	.C555	.29.164	.1.179	.45C	569.6	1.0754E-03
25	240.00	.96000	757.00	.0565	.C69C	.C77	.29.120	.1.664	.451	571.3	1.5034E-03
25	240.00	.99000	758.00	.C271	.C332	.0313	.25.042	.G.187	.452	573.1	7.23C-E-04
25	247.50	.30000	759.00	.C128	.0156	.C175	.31.528	.6.005	.434	568.9	3.4249E-04
25	247.50	.40000	760.00	.C332	.C4C0	.0456	.25.320	.6.574	.447	566.7	8.8359E-04
25	247.50	.50000	761.00	.C587	.C618	.0707	.25.120	.1.714	.45C	569.9	1.563C-E-1
25	247.50	.60000	762.00	.0442	.0543	.C611	.29.219	.1.294	.449	569.0	1.1836E-03
25	247.50	.65000	763.00	.C522	.C650	.C732	.25.144	.1.550	.451	570.7	1.4165E-C3
25	247.50	.70000	764.00	.1055	.0678	.C763	.25.170	.1.619	.45C	570.1	1.4777E-03
25	247.50	.75000	765.00	.0525	.0646	.0727	.29.216	.1.545	.449	569.1	1.4077E-C3
25	270.00	.20000-02	767.00	.71C0	.6867	.9180	.25.C44	.2C.666	.453	518.6	1.8919E-02
25	270.00	.25000-01	768.00	.0442	.0543	.C612	.23.112	.25.289	.4574	515.2	4.5182E-02
25	270.00	.50000-01	769.00	.C985	.12C2	.1252	.29.484	.2.905	.444	312.7	2.6180E-03
25	270.00	.75000-01	770.00	.C55C	.C61C	.C152	.29.600	.1.e28	.442	311.2	1.4605E-03
25	270.00	.10000+06	771.00	.C598	.1215	.1364	.25.669	.2.951	.441	31C.6	2.6476E-C3
25	270.00	.11200	772.00	.41J6	.5C97	.572C	.25.673	.12.42C	.441	31C.3	1.11C8-E-02
25	270.00	.13000	773.00	.1162	.1443	.1620	.29.673	.3.517	.441	31C.2	3.1452E-03
25	270.00	.15000	774.00	.1058	.1337	.1500	.29.724	.3.264	.440	3C9.6	2.9132E-03
25	270.00	.20000	775.00	.C474	.C577	.C647	.25.659	.1.4C5	.441	310.4	2.57C-E-C3
25	270.00	.25000	776.00	.0223	.C262	.C362	.24.486	.0.781	.444	312.7	7.0379E-04
25	270.00	.30000	777.00	.0183	.0223	.0251	.29.380	.0.5337	.446	314.6	4.8597E-04
25	270.00	.40000	778.00	.0266	.0327	.0368	.29.219	.0.782	.449	316.1	7.1226E-04

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ARC 3.5-178 IH3

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ARC 3.5-178 IH3 O+T+S (TRIPS) SOLID BOOSTER  
(REF 103)

RUN	PH#	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	GREF	OOT BTU/ FT2SEC	HW/H/T	TH DEG. R	STN NO R=0.9
25	270.00	.50000	779.00	.C49C	.0559	.0674	.25.167	1.032	.45C	569.7	1.3056E-03
25	270.00	.60000	780.00	.C645	.0566	.0671	.25.175	1.0253	.45C	570.0	1.1051E-03
25	270.00	.65000	781.00	.C545	.0446	.0612	.25.161	1.311	.45C	570.3	1.1877E-03
25	270.00	.70000	782.00	.0523	.0620	.0689	.29.181	1.249	.450	569.9	1.1395E-03
25	270.00	.75000	783.00	.0456	.0606	.0682	.29.224	1.450	.449	568.9	1.3203E-03
25	270.00	.78000	784.00	.3656	.2862	.3531	.29.246	8.310	.445	568.3	7.6152E-C2
25	270.00	.80000	785.00	.0189	.C220	.C259	.25.237	C.551	.449	568.6	5.C186E-04
25	270.00	.85000	786.00	.C110	.C134	.C151	.25.286	C.321	.448	567.4	2.9163E-04
25	270.00	.90000	787.00	.0177	.0145	.C199	.29.201	C.423	.449	569.4	3.4559E-04
25	270.00	.93000	788.00	.0173	.0212	.0238	.29.025	0.502	.453	573.5	4.6122E-04
25	270.00	.96000	789.00	.C162	.0198	.0223	.28.967	C.468	.454	574.9	4.3078E-04
25	270.00	.99000	790.00	.C232	.C266	.C322	.28.921	C.675	.455	575.9	6.2235E-04
25	270.00	.30000	791.00	.0198	.0162	.0223	.29.299	C.475	.448	567.1	4.3128E-04
25	315.00	.50000	792.00	.C308	.0326	.0418	.31.692	0.276	.431	565.1	8.2408E-04
25	315.00	.70000	793.00	.C138	.0168	.0169	.29.213	0.002	.445	569.1	3.6658E-04
25	315.00	.78000	794.00	.0582	.0711	.C800	.29.304	1.107	.448	567.0	1.5492E-03
25	315.00	.80000	795.00	.0920	.1033	.1035	.29.291	2.238	.446	567.3	2.0051E-03
25	315.00	.90000	796.00	.C119	.0165	.0163	.25.216	C.361	.445	>9.1	3.1614E-04
25	315.00	.93000	797.00	.C264	.C322	.C262	.28.945	0.163	.454	575.4	7.0253E-04
25	315.00	.99000	798.00	.C209	.C254	.C287	.26.847	C.559	.456	577.0	5.5422E-04

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ARC 3.5-178 IH3

ARC 3.5-178 IH3 O/T+S (TRIPS)

## SOLID BOOSTER

RNL = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

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(REF ID: A)PAGE 10  
(REF ID: A)

## SOLID BOOSTER

RNL = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/LB.M	RS FT	ROLL SLUG/FT2SEC	ALPHA DEG.
26	5.300	.4950+07	405.7	1310.	320.0	.1750-01	.8213	.0000
27	5.300	.477+07	406.0	1306.	319.0	.1750-01	.8234	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	GREF BTU/F12SEC	QDOT BTU/F12SEC	HTM FT	HTM FT	TH DEG. R	STN NO R=0.9	
27	90.000	711.00	.4179	.5174	.5673	53.41	22.32	.4799	.638	.1	.6286-02	
27	90.000	.702.00	.8712-01	.1073	.1214	54.56	.4753	.4690	.623	.7	.1305-02	
27	90.000	.703.00	.6104-01	.7490-01	.8449-01	55.56	.3.391	.4596	.611	.1	.9111-03	
27	90.000	.704.00	.3348-01	.4090-01	.4599-01	56.75	.1.900	.4484	.596	.2	.4978-03	
27	90.000	.705.00	.4399-01	.5336-01	.5972-01	58.63	.2.579	.4307	.572	.7	.6501-03	
27	90.000	.706.00	.4207-01	.5103-01	.5711-01	58.63	.2.467	.4306	.572	.5	.6217-03	
27	90.000	.707.00	.8297-01	.1005	.1124	58.96	.4.892	.4276	.569	.5	.1225-02	
27	90.000	.708.00	.5735-01	.6951-01	.7775-01	58.90	.3.378	.4281	.569	.3	.8470-03	
27	90.000	.709.00	.4622-01	.5592-01	.3249-01	59.36	.2.743	.4238	.563	.5	.6816-03	
27	90.000	.710.00	.9000-01	.1105	.1238	58.31	.5.305	.4337	.576	.7	.1316-02	
27	90.000	.711.00	.1039	.1265	.1419	57.76	.6.004	.4388	.583	.5	.1510-02	
26	135.00	.6136-01	.7499-01	.8436-01	.8636-01	56.75	.3.482	.4498	.599	.8	.9147-03	
27	135.00	.713.00	.3931-01	.4644-01	.5196-01	58.78	.2.252	.4292	.570	.7	.5659-03	
27	135.00	.714.00	.1778	.1675	.1818	59.07	.8.004	.4359	.579	.6	.2040-02	
27	135.00	.99000	.715.00	.1306	.1589	1782	.57.70	.4.385	.583	.1	.1935-02	
27	180.00	.50000-01	.716.00	.1134	.1392	.1570	.56.50	.6.292	.4602	.611	.9	.1693-02
27	180.00	.10000+00	.717.00	.6992-01	.8551-01	.9623-01	.56.44	.3.946	.4513	.600	.1	.1041-02
27	180.00	.20030	.718.00	.5641-01	.6859-01	.7689-01	.57.98	.3.271	.4368	.580	.8	.8354-03
27	180.00	.40000	.719.00	.2631-01	.3209-01	.3605-01	.57.12	.1.503	.4449	.591	.5	.3906-03
26	180.00	.50000	.720.00	-.1074-04	-.1317-04	-.1485-04	.55.96	-.6312-03	.4572	.609	.7	.1606-06
26	180.00	.60000	.721.00	.7402-01	.9053-01	.1019	.56.57	.4.185	.4514	.602	.0	.1104-02
26	180.00	.65000	.722.00	.8257-01	.1010	.1136	.56.62	.4.675	.4510	.611	.4	.1231-02
26	180.00	.70000	.723.00	.7538-01	.9213-01	.1036	.56.72	.4.276	.4500	.600	.2	.1124-02
26	180.00	.75000	.724.00	.7120-01	.8689-01	.9765-01	.57.14	.4.068	.4461	.594	.9	.1060-02
26	180.00	.78000	.725.00	.2477	.3022	.3394	.57.29	.1.19	.4447	.593	.1	.3681-02
26	180.00	.89000	.726.00	.1345	.1640	.1843	.57.19	.7.890	.4456	.551	.2	.2001-02

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ARC 3.5-178 IH3

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(REVISION)

RUN NUMBER	PHI	X'L	T/C NO	ARC 3.5-178 IH3 0+T+S (TRIPS)			SOLID BOOSTER	H/W/HT	TW	DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	OEF K=0.85					
26	180.00	.85000	727.00	.1309	.1593	.1787	57.87	7.574	.3932	.585.7	.1944-C2
26	180.00	.90000	728.00	.5950-01	.7234-01	.8105-01	58.17	3.461	.4364	.581.9	.8830-03
26	180.00	.92000	729.00	.1730	.2108	.2357	57.46	9.91	.4429	.590.7	.2572-02
26	180.00	.96000	730.00	.1078	.1315	.177	57.26	6.174	.4450	.593.4	.1605-02
26	180.00	.99000	731.00	.9369-01	.1143	.1284	57.27	5.365	.4449	.593.3	.1394-02
26	210.00	.90400	732.00	.5651-01	.6871-01	.7703-01	58.11	3.284	.4369	.582.7	.8387-03
26	225.00	.75000-01	74.00	.7782-01	.9530-01	.1074	56.22	4.375	.4548	.606.5	.1162-02
26	225.00	.10000-00	74.00	.4553-01	.5566-01	.6262-01	56.67	2.580	.4505	.600.8	.6789-03
26	225.00	.15000	74.2-70	.5322-01	.6472-01	.7256-01	58.10	3.092	.4371	.582.9	.790-03
26	225.00	.20000	74.3-30	.4090-01	.4975-01	.5579-01	58.00	2.372	.4381	.584.2	.6073-03
27	225.00	.30000	74.4-10	.3390-01	.4131-01	.4638-01	57.40	1.956	.4423	.588.1	.5030-03
26	225.00	.40000	74.5-00	.281E-01	.3434-01	.3858-01	57.30	1.613	.4446	.592.9	.4190-03
26	225.00	.50000	74.6-00	.7992-01	.9748-01	.1055	57.26	4.576	.4449	.593.3	.1189-02
26	225.00	.60000	74.7-00	.1138	.1387	.1557	57.49	6.542	.4428	.590.5	.1692-02
26	225.00	.70000	74.8-00	.8940-01	.1089	.1222	57.72	5.110	.4406	.587.6	.1329-02
26	225.00	.80000	74.9-00	.1169	.1445	.1620	58.21	6.921	.4360	.581.5	.1764-02
26	225.00	.85000	75.0-00	.8105-01	.9833-01	.1101	58.74	4.761	.4310	.574.8	.1201-02
27	225.00	.90000	75.2-00	.1915-01	.2320-01	.2504-01	59.04	1.131	.4268	.567.5	.2827-03
26	225.00	.95000	75.3-00	.1517	.1848	.2075	57.57	8.744	.4421	.589.5	.2256-02
26	225.00	.96000	75.4-00	.5123-01	.6613-01	.7428-01	57.31	3.108	.4445	.592.7	.8069-03
26	225.00	.97000	75.5-00	.5350-01	.6525-01	.7330-01	57.70	3.366	.4446	.592.9	.7962-03
26	240.00	.94000	75.6-00	.5800-01	.6800-01	.7500-01	57.56	2.740	.4421	.589.6	.7077-03
26	240.00	.95000	75.7-00	.4920-01	.6007-01	.6750-01	57.15	2.813	.4460	.594.7	.7328-03
26	240.00	.99000	75.8-01	.2571-01	.3261-01	.3665-01	57.06	1.524	.4469	.595.9	.3978-03
27	247.50	.30000	76.1-50	.2339-01	.2908-01	.3261-01	57.82	1.382	.4383	.582.8	.3541-03
26	247.50	.40000	76.1-00	.5570-01	.6787-01	.7619-01	57.56	3.203	.4422	.589.7	.8282-03
26	247.50	.50000	76.2-00	.5244-01	.6384-01	.7163-01	57.76	3.029	.4402	.587.1	.7792-03
26	247.50	.65000	76.3-00	.6329-01	.7704-01	.8643-01	57.81	3.659	.4395	.586.5	.9403-03
26	247.50	.70000	76.4-00	.7633-01	.9605-01	.1077	57.88	4.569	.4391	.585.6	.1172-02
26	247.50	.75000	76.5-00	.7633-01	.9288-01	.1041	58.03	4.429	.4377	.583.7	.1133-02
26	247.50	.75000	76.5-00	.9968-01	.1211	.1357	58.29	5.810	.4353	.580.5	.1479-02
26	270.00	.20000-02	767.00	.6113	.8062	.9150	53.59	34.90	.4795	.522.5	.9818-02
26	270.00	.25000-01	768.00	.1653	.2039	.2308	54.48	9.005	.4712	.628.4	.2484-02
26	270.00	.15000	770.00	.1006	.1236	.1396	55.41	5.577	.4624	.616.6	.1507-02
26	270.00	.20000	770.00	.6131-01	.7513-01	.8468-01	56.05	3.437	.4564	.608.6	.9162-03
26	270.00	.247.50	771.00	.1694	.2072	.2332	56.55	9.579	.4517	.602.3	.7527-02
26	270.00	.11000	772.00	.4672	.5710	.6424	56.74	26.51	.4498	.599.9	.6965-02
26	270.00	.13000	773.00	.1365	.1663	.1866	57.65	7.871	.4413	.588.5	.2030-02
26	270.00	.15000	774.00	.1117	.1356	.1519	58.49	6.529	.4335	.578.2	.1655-02
26	270.00	.20000	775.00	.5008-01	.6569-01	.7358-01	58.45	3.161	.4338	.578.5	.8020-03
26	270.00	.25000	776.00	.3126-01	.3807-01	.4272-01	57.70	1.804	.4408	.587.9	.4646-03
26	270.00	.25000	777.00	.2129-01	.2594-01	.2912-01	57.57	1.226	.4420	.589.5	.3166-03
26	270.00	.4C000	778.00	.4277-01	.5209-01	.5846-01	57.69	2.468	.4409	.588.0	.6357-03

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ARC 3.5-178 IH3

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(REF 1504)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 0+7.5 (TRIPS)		SOLID BOOSTER	H/HIT	H/HIT	TH DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9					
26	270.00	.50000	779.00	.5582-01	.6795-01	.7623-01	.57.81	.3.227	.398	.595-.9
26	270.00	.60000	780.00	.6091-01	.7412-01	.8313-01	.57.91	.3.528	.4388	.9467-03
26	270.00	.65000	781.00	.4460-01	.5425-01	.6082-01	.58.05	.2.590	.4375	.6622-03
26	270.00	.70000	782.00	.4695-01	.506-01	.6395-.01	.58.23	.2.734	.4359	.6966-03
26	270.00	.75000	783.00	.9555-01	.1160	.1299	.58.52	.5.592	.4331	.577.6
26	270.00	.78000	784.00	.3366	.4095	.4574	.58.65	.19.74	.4319	.575.9
26	270.00	.80000	785.00	.1695-01	.2058-01	.2304-01	.58.66	.9945	.4318	.575.9
26	270.00	.85000	786.00	.1570-01	.1905-01	.2133-01	.58.64	.9207	.4320	.576.0
25	270.00	.90000	787.00	.1741-01	.2116-C1	.2370-01	.58.36	.1.016	.4347	.579.7
26	270.00	.93000	788.00	.2837-01	.3459-01	.3886-01	.57.40	.1.629	.4437	.591.7
26	270.00	.96000	789.00	.2224-01	.2715-01	.3052-01	.57.00	.1.267	.4474	.596.7
26	270.00	.99000	790.00	.3071-01	.3752-01	.4219-01	.56.95	.1.746	.4487	.598.4
26	270.00	1.00000	791.00	.3256-01	.3959-01	.4438-01	.58.10	.1.891	.4371	.582.9
27	315.00	.50000	792.00	.4573-01	.5536-01	.6188-01	.59.22	.2.709	.4250	.565.2
26	315.00	.70000	793.00	.2703-01	.2672-01	.2391-01	.58.72	.1.293	.4312	.575.1
26	315.00	.78000	794.00	.7501-01	.9087-01	.1015	.59.15	.4.437	.4272	.569.7
26	315.00	.80000	795.00	.1245	.1510	.1689	.58.93	.7.335	.4293	.572.4
26	315.00	.90000	796.00	.1354-.01	.1645-01	.1813-01	.58.35	.7.790	.4347	.579.7
26	315.00	.93000	797.00	.3816-01	.4662-01	.5244-01	.56.83	.2.168	.4491	.598.8
26	315.00	.99000	798.00	.2825-01	.3460-01	.3897-01	.56.25	.4.585	.606.1	.4219-03



DATE 24 JAN 76

RUN NUMBER	PHI	ARC 3.5-178 IH3			ARC 3.5-178 IH3 0+T+S			SOLID BOOSTER			STN NO R=0.9
		X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	GREF BTU/FT2SEC	CNOT LTU/FT2SEC	H/H/T	TH DEG. R	
33	180.00	.85000	727.00	.2162	.2623	.2935	.57.49	12.43	.4311	953.5	
33	180.00	.90000	728.00	.1013	.1229	.1374	.57.70	5.847	" " "	1483.02	
33	180.00	.93000	729.00	.2996	.3634	.4068	.57.52	17.23	.4312	953.2	
33	180.00	.96000	730.00	.1796	.2179	.2439	.57.47	10.32	.4312	2630.02	
33	180.00	.99000	731.00	.1574	.1911	.2140	.57.35	9.030	.4324	565.2	
33	210.00	.90409	732.00	.9181-01	.1113	.1245	.57.70	5.297	.4290	560.8	
33	225.00	.75000-01	740.00	.1092	.1326	.1486	.57.11	6.235	.4347	568.3	
33	225.00	.1000-1+00	741.00	.8517-01	.1034	.1158	.57.27	4.877	.4332	566.3	
33	225.00	.1500J	742.00	.7164-01	.8681-01	.9709-01	.57.84	4.144	.4277	" " "	
33	225.00	.20000	743.00	.6118-01	.7417-01	.8299-01	.57.69	3.529	.4291	360.9	
34	225.00	.30000	744.00	.4104-01	.5016-01	.56+3-01	.56.39	2.314	.4498	596.6	
33	225.00	.40000	745.00	.3587-01	.4354-01	.4875-01	.57.37	2.058	.4322	.565.0	
33	225.00	.50000	746.00	.6124-01	.7436-01	.8328-01	.57.26	3.508	.4323	566.4	
33	225.00	.60000	747.00	.1074	.1303	.1458	.57.45	6.167	.4315	564.0	
33	225.00	.70000	748.00	.1065	.1292	.1446	.57.53	6.127	.4306	562.9	
33	225.00	.80000	750.00	.1202	.1456	.1628	.57.98	6.971	.4263	557.3	
33	225.00	.85000	751.00	.1385	.1678	.1876	.57.93	8.025	.4268	557.9	
33	225.00	.90000	752.00	.3535-01	.4298-01	.4817-01	.57.81	2.044	.4363	578.7	
33	225.00	.93000	753.00	.2768	.3381	.3784	.57.58	16.05	.4302	562.4	
33	225.00	.96000	754.00	.8386-01	.1017	.1139	.57.54	4.825	.4306	566.9	
33	225.00	.99000	755.00	.7395-01	.8976-01	.1005	.57.38	4.243	.4321	1083.02	
33	240.00	.93000	756.00	.9585-01	.1163	.1301	.57.56	5.517	.4304	562.6	
33	240.00	.96000	757.00	.6551-01	.1038	.1162	.57.46	4.914	.4313	563.8	
33	240.00	.99000	758.00	.4496-01	.5459-01	.6114-01	.57.24	2.573	.4334	566.6	
34	247.50	.30000	759.00	.2759-01	.3367-01	.384-01	.56.84	1.565	.4465	592.2	
33	247.50	.40000	760.00	.3401-01	.412-01	.4629-01	.57.45	1.954	.4315	564.0	
33	247.50	.50000	761.00	.6781-01	.8227-01	.+-08-01	.57.51	3.900	.4309	563.2	
33	247.50	.60000	762.00	.7615-01	.9234-01	.1033	.57.64	4.389	.4296	566.6	
33	247.50	.65000	763.00	.7114-01	.8628-01	.9655-01	.57.59	4.097	.4301	562.2	
33	247.50	.70000	764.00	.7447-01	.9028-01	.1010	.57.69	4.296	.4291	561.0	
32	247.50	.75000	765.00	.7963-01	.9529-01	.1066	.57.82	4.547	.4279	559.3	
33	270.00	.20000-02	767.00	.7151	.8747	.9844	.55.34	39.58	.4517	590.5	
33	270.00	.25000-01	768.00	.1878	.2289	.2570	.56.25	10.56	.4430	579.1	
33	270.00	.50000-01	769.00	.1085	.1319	.1479	.56.82	6.164	.4375	571.9	
33	270.00	.75000-01	770.00	.6756-01	.8209-01	.9198-01	.57.17	3.856	.4350	568.7	
33	270.00	.10000+00	771.00	.1111	.1350	.1512	.57.11	6.351	.4342	567.6	
33	270.00	.11000	772.00	.4602	.5589	.6260	.57.22	26.34	.4336	566.8	
33	270.00	.13000	773.00	.2027	.2456	.2746	.57.93	1.1.74	.4269	558.0	
33	270.00	.15000	774.00	.1871	.2266	.2532	.58.07	10.87	.4255	556.2	
33	270.00	.25000	775.00	.7867-01	.9530-01	.1065	.57.92	4.556	.4270	558.1	
33	270.00	.25000	776.00	.4763-01	.5775-01	.6162-01	.57.67	2.747	.4294	561.3	
33	270.00	.30000	777.00	.3155-01	.3827-01	.4286-01	.57.49	1.813	.4311	563.5	
33	270.00	.40000	778.00	.3468-01	.4208-01	.4710-01	.57.47	1.993	.4313	563.8	

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ARC 3.5-178 IH2

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(RE105)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 O+T+S			SOLID BOOSTER			MM/HT	TH DEG.	R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	MM/HT				
33	270.00	.50000	779.00	.6331-01	.7679-01	.8594-01	57.55	3.643	.4305	562.7	.9268-03		
33	270.00	.60000	780.00	.7995-01	.9696-01	.1085	57.62	4.607	.4298	551.8	.1170-02		
33	270.00	.65000	781.00	.7934-01	.9619-01	.1076	57.68	4.576	.4293	561.2	.1161-02		
33	270.00	.70000	782.00	.5827-01	.7062-01	.7900-01	57.79	3.367	.4282	559.8	.8525-03		
33	270.00	.75000	783.00	.6915-01	.8377-01	.9357-01	57.90	4.004	.4271	558.3	.1011-02		
33	270.00	.78000	784.00	.2461	.2981	.3332	58.03	14.28	.4259	556.7	.3598-02		
33	270.00	.80000	785.00	-.4264-10	-.5248-10	-.5932-10	53.80	-2.294-08	.4665	609.8	-.6322-12		
33	270.00	.85000	786.00	.2361-01	.2861-01	.3199-01	57.89	1.367	.4273	558.5	.3455-03		
33	270.00	.90000	787.00	.1634-01	.1979-01	.2223-01	57.94	.9466	.4268	557.9	.2389-03		
33	270.00	.93000	788.00	.4046-01	.4908-01	.5493-01	57.54	2.328	.4305	562.8	.5924-03		
33	270.00	.96000	789.00	.4081-01	.4953-01	.5554-01	57.43	2.344	.4317	564.3	.5977-03		
33	270.00	.99000	790.00	.2377-01	.2986-01	.3233-01	57.21	1.360	.4339	567.0	.3483-03		
33	315.00	.30000	791.00	.4230-01	.5133-01	.5746-01	57.47	2.431	.4312	563.7	.6195-03		
34	315.00	.50000	792.00	.5279-01	.6109-01	.7178-01	58.18	3.071	.4329	574.1	.7804-03		
33	315.00	.70000	793.00	.2596-01	.3146-01	.3519-01	57.79	1.500	.4281	559.7	.3798-03		
33	315.00	.78000	794.00	.7838-01	.9493-01	.1061	57.99	4.545	.4263	557.3	.1146-02		
33	315.00	.80000	795.00	.1193	.1445	.1617	57.67	6.906	.4274	559.7	.1745-02		
33	315.00	.90000	796.00	.2904-01	.3524-01	.3944-01	57.50	1.670	.4310	563.4	.4253-03		
33	315.00	.93000	797.00	.6339-01	.7702-01	.8630-01	57.09	3.619	.4349	568.5	.9294-03		
33	315.00	.99000	798.00	.3188-01	.3676-01	.4345-01	56.87	1.813	.4370	571.2	.4677-03		

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ARC 3.5-178 IH3

## ARC 3.5-178 IH3 SRB

## SOLID BOOSTER

## SOLID BOOSTER

PAGE 16  
(REF 1514)

RN/L = 1.500    BETA = .0000    ALPHA = .0000    ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RN/L PER FT    FO PSIA    TO DEG. R    HQ BTU/LBM    RS FT    RHOEL SLUG/FT2SEC    ALPHA DEG.

64 5.300 .1509-07 122.7 1303. 318.4 .1750-01 .2492 .0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	QDQT BTU/FT2SEC	TH DEG. R	STN NO R=0.9
64	90.000	.00000-01	701.00	.5202	.6306	.7056	.32.25	.16.78	.4292	539.4
64	90.000	.25000-01	702.00	.1112	.1346	.1503	.32.61	.3.527	.4230	561.3
64	90.000	.50000-01	703.00	.9245-01	.1117	.1246	.32.84	.3.036	.4190	555.9
64	90.000	.10000-00	704.00	.7.02-01	.8569-01	.9555-01	.33.04	.2.347	.4156	551.4
64	90.000	.40000	705.00	.7973-02	.9514-02	.1072-01	.33.13	.2.264	.4140	549.4
64	90.000	.80000	708.00	.3173-01	.3825-01	.4262-01	.33.20	.1.054	.4128	547.8
64	90.000	.90000	709.00	.3303-01	.3981-01	.4335-01	.33.22	.1.097	.4126	547.4
54	90.000	.93000	710.00	.8099-01	.9770-01	.1069	.33.05	.2.676	.4155	551.3
64	90.000	.99000	711.00	.1023	.1235	.1377	.33.02	.3.379	.4159	551.9
64	90.000	.93000	714.00	.9502-01	.1148	.1231	.32.84	.3.120	.4191	556.0
64	135.00	.99000	715.00	.1062	.1282	.1431	.32.84	.3.487	.4190	555.5
64	180.00	.50000-01	716.00	.9515-01	.1150	.1284	.32.75	.3.116	.4206	558.1
64	180.00	.10000-00	717.00	.7711-01	.9306-01	.1038	.32.98	.2.543	.4167	552.9
64	180.00	.20000	718.00	.9964-02	.1201-01	.1338-01	.33.21	.3309	.4127	547.6
64	180.00	.40000	719.00	.1198-01	.1447-01	.1615-01	.32.87	.3939	.4185	555.3
64	180.00	.50000	720.00	.2464-01	.2974-01	.3318-01	.32.94	.8.115	.4174	553.8
64	180.00	.60000	721.00	.3413-01	.4123-01	.4601-01	.32.86	.1.122	.4187	555.5
64	180.00	.65000	722.00	.3778-01	.4564-01	.5094-01	.32.83	.1.240	.4192	553.3
64	180.00	.70000	723.00	.3703-01	.4480-01	.5001-01	.32.80	.1.216	.4197	556.9
64	180.00	.75000	724.00	.3270-01	.3950-01	.4408-01	.32.84	.1.074	.4190	555.9
64	180.00	.78000	725.00	.1196	.1444	.1610	.32.98	.3.945	.4167	552.9
64	130.00	.80000	726.00	.4247-01	.5129-01	.5724-01	.32.85	.1.395	.4188	555.7
64	180.00	.90000	728.00	.3693-01	.3733-01	.4164-01	.32.95	.1.019	.4170	553.3
64	180.00	.93000	729.00	.5555-01	.1158	.1292	.32.83	.3.147	.4192	556.2
64	180.00	.95000	730.00	.6932-01	.1035	.1212	.32.82	.2.950	.4195	556.6
64	180.00	.97000	731.00	.9275-01	.1121	.1251	.32.80	.3.042	.4193	557.0
64	210.00	.95450	732.00	.3246-01	.3917-01	.4269-01	.32.99	.1.071	.4164	552.5

TEST DATA  
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DATE 24 JAN 76	ARC 3.5-178 1H3	ARC 3.5-178 1H3	ARC 3.5-178 1H3	SRB	SOLID BOOSTER	QDOT	QDOT	BTU/	BTU/	DEG. R	HM/HT	HM/HT	STN NO
RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	OFF	FT2SEC	FT2SEC	DEG. R	DEG. R	DEG. R	R=0.9
64	225.00	.75000-01	740.00	.8580-C1	.1036	.1157	32.83	2.817	.4192	556.2	.2295-02		
64	225.00	.10000+00	741.00	.7479-C1	.9031-01	.1008	32.90	2.460	.4180	554.7	.2000-02		
64	225.00	.15000	742.00	.2160-01	.2603-01	.2901-01	33.22	.7176	.4125	547.4	.5768-03		
64	225.00	.20000	743.00	.2850-C1	.3437-01	.3831-01	33.13	.9444	.4140	549.3	.7614-03		
64	225.00	.40000	744.00	.3561-01	.4300-01	.4798-01	32.87	1.176	.4185	555.3	.9523-03		
64	225.00	.60000	745.00	.3828-01	.4622-01	.5156-01	32.93	1.261	.4175	554.0	.1024-02		
64	225.00	.93000	753.00	.1397	.1685	.1680	33.01	4.611	.4161	552.1	.3733-02		
64	225.00	.95000	754.00	.9612-01	.1160	.1294	33.00	3.172	.4163	552.4	.2569-02		
64	225.00	.99000	755.00	.7523-01	.9078-01	.1012	33.00	2.482	.4164	552.4	.2011-02		
64	240.00	.93000	756.00	.8139-J1	.9824-01	.1096	32.96	2.683	.4170	553.3	.2176-02		
64	240.00	.96000	757.00	.7373-L1	.8902-01	.9932-01	32.91	2.427	.4178	554.4	.1972-02		
64	240.00	.99000	758.00	.7784-01	.9396-01	.1048	32.95	2.565	.4172	553.6	.2081-02		
64	247.50	.40000	760.00	.4439-01	.4954-01	.5285	32.85	1.207	.4169	555.8	.9831-03		
64	247.50	.60000	762.00	.3705-01	.4472-01	.4988-01	32.96	1.221	.4170	553.3	.9905-03		
64	260.00	.11500	766.00	.1528	.1845	.2058	32.93	5.032	.4176	554.1	.4086-02		
64	270.00	.20000-02	767.00	.5496	.6665	.7458	32.21	17.71	.4298	570.3	.1475-01		
64	270.00	.25000-01	768.00	.1234	.1495	.1671	32.41	4.001	.4264	565.7	.3309-02		
64	270.00	.50000-01	769.00	.9579-01	.1159	.1294	32.62	3.125	.4228	561.0	.2555-02		
64	270.00	.75000-01	770.00	.8814-01	.1065	.1189	32.80	2.891	.4197	556.8	.2358-02		
64	270.00	.10000+00	771.00	.7786-01	.9403-01	.1049	32.86	2.559	.4186	555.5	.2082-02		
64	270.00	.11000	772.00	.1290	.1557	.1738	32.88	4.241	.4183	555.0	.3449-02		
64	270.00	.13000	773.00	.5166-01	.6233-01	.6951-01	33.03	1.706	.4158	561.7	.1381-02		
64	270.00	.15000	774.00	.8566-01	.1045	.1164	33.18	2.875	.4133	548.4	.2314-02		
64	270.00	.20000	775.00	.5951-01	.7179-01	.8006-01	33.03	1.965	.4157	561.6	.1590-02		
64	270.00	.25000	776.00	.6093-01	.6091-01	.6795-01	32.95	1.657	.4168	555.7	.1349-02		
64	270.00	.30000	777.00	.4535-01	.5479-01	.6115-01	32.82	1.489	.4193	556.4	.1213-02		
64	270.00	.40000	778.00	.4280-01	.5169-01	.5767-01	32.89	1.408	.4182	554.9	.1145-02		
64	270.00	.50000	779.00	.407F-01	.4918-01	.5486-01	32.96	1.343	.4170	563.3	.1089-02		
64	270.00	.65000	781.00	.4094-01	.4938-01	.5507-01	33.05	1.353	.4154	551.2	.1094-02		
64	270.00	.70000	782.00	.4181-01	.5043-01	.5623-01	33.07	1.382	.4152	560.9	.1117-02		
64	270.00	.75000	783.00	.359J-01	.4334-01	.4831-01	33.15	1.191	.4138	549.0	.9600-03		
64	270.00	.78000	784.00	.1593	.1920	.2139	33.23	5.293	.4124	547.3	.4253-02		
64	270.00	.80000	785.00	.3860-01	.4654-01	.5187-01	33.16	1.280	.4135	548.7	.1031-02		
64	270.00	.90000	787.00	.3926-01	.4732-01	.5273-01	33.19	1.303	.4131	548.2	.1048-02		
64	270.00	.95000	788.00	.993J-01	.1198	.1336	33.04	3.281	.4156	551.4	.2654-02		
64	270.00	.96000	789.00	.1040	.1254	.1399	33.00	3.430	.4163	562.4	.2779-02		
64	270.00	.99000	790.00	.1055	.1272	.1419	33.02	3.403	.4159	551.8	.2818-02		
64	315.00	.30000	791.00	.3563-01	.4298-01	.4792-01	33.07	1.178	.4150	560.7	.9520-03		
64	315.00	.70000	793.00	.34J7-01	.4106-01	.4575-01	33.22	1.132	.4125	547.4	.9096-03		
64	315.00	.93000	797.00	.7293-01	.8794-01	.9803-01	33.12	2.416	.4142	549.6	.1948-02		
64	315.00	.99000	798.00	.8177-01	.9861-01	.1099	33.10	2.706	.4146	550.2	.2134-02		

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ARC 3.5-178 IH3

PAGE 18  
(REIS15)

## SOLID BOOSTER

ARC 3.5-178 IH3

SOLID BOOSTER

RN/L = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
65	5.300	.5074+07	406.2	1291.	315.1	1750.01	.8256	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HT	HW/HT	TH DEG. R	STN NO R=0.9
65	90.000	0.00000	701.00	.4419	.5444	.6158	.53.39	.4688	.615.7	.6567-02	
65	90.000	.25000-01	702.00	.9833-01	.1206	.1360	.54.96	.4586	.602.2	.1456-02	
65	90.000	.50000-01	703.00	.8596-01	.1051	.1182	.55.83	.4503	.591.3	.1269-02	
65	90.000	.10000+00	704.00	.7221-01	.8799-01	.9079-01	.56.65	.4091	.581.0	.1063-02	
65	90.000	.40000	705.00	.1395-01	.1696-01	.190-01	.57.29	.7994	.573.0	.2050-03	
65	90.000	.80000	708.00	.5409-01	.6574-01	.7367-01	.57.36	.31.02	.572.2	.7945-03	
65	90.000	.90000	709.00	.3920-01	.4758-01	.5326. C1	.57.77	.2.265	.4318	.567.0	.551-03
65	90.000	.93000	710.00	.9071-01	.1104	.1238	.57.01	.5.171	.4390	.576.5	.1334-02
65	50.000	.99000	711.00	.1145	.1395	.1566	.56.80	.6.507	.4410	.579.1	.1689-02
65	135.00	.93000	714.00	.9051-01	.1106	.1244	.55.88	.5.057	.4498	.590.7	.1336-02
65	135.00	.99000	715.00	.1158	.1415	.1592	.55.96	.6.482	.4491	.589.7	.1709-02
65	180.00	.50000-01	716.00	.8301-01	.1017	.1147	.55.18	.4.580	.5655	.599.5	.1228-02
65	180.00	.10000+00	717.00	.7093-01	.8668-01	.9750-01	.55.91	.3.966	.4495	.590.3	.1047-02
65	180.00	.20000	718.00	.7288-02	.8869-02	.9948-02	.57.00	.4.154	.4391	.576.7	.1072-03
65	180.00	.40000	719.00	.4526-01	.5538-01	.6235-01	.55.57	.2.515	.4528	.594.6	.6687-03
65	180.00	.50000	720.00	.3928-01	.4796-01	.5393-01	.56.08	.2.203	.4479	.588.7	.5793-03
65	180.00	.60000	721.00	.4240-01	.5188-01	.5842-01	.55.56	.2.356	.4529	.594.8	.6264-03
65	180.00	.65000	722.00	.4252-01	.5204-01	.5886-01	.55.49	.2.359	.4535	.595.6	.6283-03
65	180.00	.70000	723.00	.4160-01	.5093-01	.5736-01	.55.44	.2.306	.4540	.596.2	.6149-03
65	180.00	.75000	724.00	.4095-01	.5009-01	.5638-01	.55.64	.2.278	.4521	.593.8	.6048-03
65	180.00	.76000	725.00	.1171	.1431	.1609	.56.01	.6.560	.4485	.589.0	.1728-02
65	180.00	.80000	726.00	.5922-01	.7253-01	.8172-01	.55.30	.3.275	.4554	.598.0	.8756-03
65	180.00	.90000	728.00	.3501-01	.4271-01	.4799-01	.56.32	.1.972	.4456	.585.1	.5159-03
65	180.00	.93000	729.00	.9394-01	.1149	.1293	.55.72	.5.234	.4513	.592.7	.1387-02
65	180.00	.96000	730.00	.9119-01	.1140	.1263	.55.70	.5.191	.4515	.592.9	.1376-02
65	180.00	.99000	731.00	.1000	.1223	.1376	.55.71	.5.571	.4515	.592.9	.1477-02
65	210.00	.90400	732.00	.4888-01	.5965-01	.6703-0T	.56.29	.2.751	.4459	.585.6	.7204-03

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

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ARC 3.5-178 IH3

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(RE IS 15)

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	ARC 3.5-178 IH3 SRB	SOL ID BOOSTER	QREF FT2SEC	QD001 BTU/FT2SEC	HWT	STN NO R=0.9
65	225.00	.75000+01	740.00	.7815-01	.95555-01	.1075	.55.77	4.359	.4508	.592.0	.1154-02
65	225.00	.10000+00	741.00	.6898-01	.8427-01	.9477-01	.55.98	3.861	.4489	.589.5	.1018-02
65	225.00	.15000	742.00	.3446-01	.4192-01	.4700-01	.57.16	1.970	.4376	.574.7	.5065-03
65	225.00	.20000	743.00	.4137-01	.5037-01	.5652-01	.56.85	2.352	.4405	.578.5	.6086-03
65	225.00	.40000	745.00	.4078-01	.4985-01	.5669-01	.55.80	2.276	.4505	.591.7	.6020-03
65	225.00	.60000	747.00	.4262-01	.5206-01	.5854-01	.56.00	2.387	.4486	.589.1	.6287-03
65	225.00	.93000	753.00	.1424	.1739	.1956	.56.01	7.976	.4485	.589.0	.2100-02
65	225.00	.96000	754.00	.1028	.1256	.1412	.56.10	5.770	.4477	.587.9	.1517-02
65	225.00	.99000	755.00	.9052-01	.1104	.1240	.56.43	5.108	.4445	.583.8	.1333-02
65	240.00	.93000	756.00	.8801-01	.1075	.1210	.55.93	4.922	.4493	.590.0	.1299-02
65	240.00	.96000	757.00	.8367-01	.1023	.1152	.55.68	4.659	.4517	.593.2	.1236-02
65	240.00	.99000	758.00	.8962-01	.1095	.1231	.56.01	5.020	.4486	.589.1	.1322-02
65	247.50	.40000	760.00	.4703-01	.5746-01	.6162-01	.55.57	2.632	.4489	.589.5	.6939-03
65	247.50	.60000	762.00	.4228-01	.5159-01	.5797-01	.56.30	2.380	.4457	.585.4	.6231-03
65	260.00	.11500	766.00	.1859	.2269	.2550	.56.22	10.45	.4466	.586.5	.2740-02
65	270.00	.20000-02	767.00	.4886	.6020	.6811	.53.85	26.31	.4693	.616.3	.7262-02
65	270.00	.25000-01	768.00	.1111	.1366	.1542	.54.47	6.053	.4633	.608.4	.1648-02
65	270.00	.50000-01	769.00	.8717-01	.1068	.1204	.55.21	4.813	.4562	.599.1	.1289-02
65	270.00	.75000-01	770.00	.8171-01	.9974-01	.1121	.56.20	.4592	.4667	.586.7	.1205-02
65	270.00	.10000+00	771.00	.6961-01	.8495-01	.9546-01	.56.27	3.917	.4461	.585.8	.1026-02
65	270.00	.11000	772.00	.1653	.2017	.2266	.56.33	9.313	.4455	.585.0	.2436-02
65	270.00	.13000	773.00	.5798-01	.7062-01	.7926-01	.56.75	3.290	.4415	.579.8	.8532-03
65	270.00	.15000	774.00	.5416-01	.6594-01	.7398-01	.57.35	5.147	.4357	.572.2	.1318-02
65	270.00	.20000	775.00	.4942-01	.6035-01	.6784-01	.56.88	3.080	.4403	.578.2	.7967-03
65	270.00	.25000	776.00	.5117-01	.6250-01	.7028-01	.56.12	2.774	.4475	.587.7	.7288-03
65	270.00	.30000	777.00	.778.00	.5716-01	.6974-01	.56.05	2.868	.4482	.588.6	.7548-03
65	270.00	.40000	778.00	.5897-01	.7178-01	.8053-01	.56.31	3.219	.4456	.585.2	.8423-03
65	270.00	.50000	779.00	.5897-01	.7178-01	.8053-01	.56.48	3.326	.4440	.583.1	.8671-03
65	270.00	.65000	781.00	.6019-01	.7329-01	.8225-01	.56.82	3.420	.4408	.578.9	.8855-03
65	270.00	.70000	782.00	.5962-01	.7258-01	.8143-01	.56.91	3.393	.4400	.577.8	.8769-03
65	270.00	.75000	783.00	.5825-01	.7076-01	.7931-01	.57.41	3.344	.4352	.571.5	.8554-03
65	270.00	.78000	784.00	.2297	.2788	.3122	.57.69	13.25	.4325	.569.0	.3370-02
65	270.00	.80000	785.00	.4060-01	.4941-01	.5542-01	.57.03	2.316	.4388	.576.2	.5970-03
65	270.00	.90000	787.00	.5519-01	.6706-01	.7513-01	.57.45	3.171	.4348	.571.0	.8104-03
65	270.00	.93000	788.00	.1336	.1628	.1828	.56.60	7.559	.4429	.588.7	.1966-02
65	270.00	.96000	789.00	.1421	.1733	.1948	.56.32	8.002	.4456	.585.1	.2094-02
65	270.00	.99000	790.00	.1443	.1760	.1977	.56.44	8.147	.4444	.588.6	.2126-02
65	315.00	.30000	791.00	.5102-01	.6204-01	.6956-01	.57.20	2.918	.4372	.574.2	.7497-03
65	315.00	.315.00	793.00	.4324-01	.5250-01	.5879-01	.57.65	2.493	.4329	.569.5	.6345-03
65	315.00	.93000	797.00	.8138-01	.9902-01	.1111	.56.06	4.644	.4386	.575.9	.1196-02
65	315.00	.99000	798.00	.9771-01	.1190	.1335	.56.87	5.556	.4404	.578.3	.1437-02

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## SOLID BOOSTER

(REISI6)

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## SOLID BOOSTER

## PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PQ PSIA	TO DEG. ?	HO BTU/LBH	RS FT	RHOEL SLUG/FT2SEC	ALPHA DEG.	ELEVON = .0000
66 5.300	.5112+07	406.3	1285.		313.6	.1750-01	.8321	20.00	

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	PQ PSIA	TO DEG. ?	HO BTU/LBH	RS FT	RHOEL SLUG/FT2SEC	ALPHA DEG.	ELEVON = .0000
66 90.000	.00000	701.00	.4774	.588?	.6629	54.12	25.84	.464!	606.5	.7060-02	
66 90.000	.25000+01	702.00	.2392-01	.3297-01	.54.52	1.298	4.602	601.5	.3516-03		
66 90.000	.50000-01	703.00	.1874-01	.2293-01	.55.30	1.036	4.528	591.7	.2760-03		
66 90.000	.10000+00	704.00	.5099-01	.6221-01	.6989-01	56.07	2.859	4.453	582.0	.7491-03	
66 90.000	.40000	705.00	.3041-01	.3704-01	.4157-01	56.49	1.718	4.413	576.8	.4461-03	
66 90.000	.80000	708.00	.2963-01	.3607-01	.4046-01	56.69	1.680	4.394	574.3	.4344-03	
66 90.000	.90000	709.00	.1489-01	.1810-01	.2029-01	56.95	8479	4.568	570.9	.2181-03	
66 90.000	.93000	710.00	.4827-01	.5881-01	.6602-01	56.39	2.722	4.422	578.0	.7083-03	
66 90.000	.99000	711.00	.4063-01	.4953-01	.5563-01	56.21	2.284	4.440	580.2	.5965-03	
66 135.00	.93000	714.00	.2883-01	.3535-01	.3980-01	55.32	1.598	4.525	591.4	.4255-03	
66 135.00	.99000	715.00	.1636-01	.2001-01	.2253-01	55.31	.9048	4.526	591.5	.2409-03	
66 180.00	.50000-01	716.00	.9752-01	.1198	.1353	54.29	5.295	4.624	601.3	.1441-02	
66 180.00	.10000+00	717.00	.7946-01	.9740-01	.1098	54.85	4.358	4.571	597.4	.1172-02	
66 180.00	.20000	718.00	.4505-01	.501-01	.6191-01	55.66	2.507	4.492	587.1	.6526-03	
66 180.00	.40000	719.00	.3024-01	.3715-01	.4194-01	54.28	1.641	4.625	604.5	.4469-03	
66 180.00	.50000	720.00	.2322-01	.2847-01	.3210-01	54.78	1.272	4.577	598.2	.3426-03	
66 180.00	.60000	721.00	.2065-01	.2536-01	.2862-01	54.39	1.123	4.614	603.1	.3051-03	
66 180.00	.65000	722.00	.2573-01	.3160-01	.3567-01	54.35	1.399	603.6	.3802-03		
66 180.00	.70000	723.00	.2771-01	.3403-01	.3842-01	54.33	1.505	4.620	603.8	.4094-03	
66 180.00	.75000	724.00	.3090-01	.3793-01	.4279-01	54.53	1.685	4.602	601.4	.4563-03	
66 180.00	.78000	725.00	.7351-01	.9003-01	.1014	55.05	4.047	4.551	594.8	.1083-02	
66 180.00	.80000	726.00	.4337-01	.5326-01	.6012-01	54.38	2.359	4.616	603.2	.6408-03	
66 180.00	.90000	728.00	.2975-01	.3639-01	.4095-01	55.40	1.648	4.518	590.5	.4380-03	
66 180.00	.93000	729.00	.1100	.1348	.1520	54.92	6.042	4.564	596.5	.1623-02	
66 180.00	.96000	730.00	.1376	.1686	.1901	54.92	7.558	4.564	596.5	.2029-02	
66 180.00	.99000	731.00	.1356	.1662	.1874	54.80	7.430	4.575	597.9	.2000-02	
66 210.00	.90400	732.00	.1407	.1721	.1938	55.28	7.777	4.529	591.9	.2072-02	

\*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	PQ PSIA	TO DEG. ?	HO BTU/LBH	RS FT	RHOEL SLUG/FT2SEC	ALPHA DEG.	ELEVON = .0000
66 90.000	.90.000	.00000	701.00	.4774	.588?	.6629	54.12	25.84	.464!	606.5	.7060-02	
66 90.000	.90.000	.25000+01	702.00	.2392-01	.3297-01	.54.52	1.298	4.602	601.5	.3516-03		
66 90.000	.90.000	.50000-01	703.00	.1874-01	.2293-01	.55.30	1.036	4.528	591.7	.2760-03		
66 90.000	.90.000	.10000+00	704.00	.5099-01	.6221-01	.6989-01	56.07	2.859	4.453	582.0	.7491-03	
66 90.000	.90.000	.40000	705.00	.3041-01	.3704-01	.4157-01	56.49	1.718	4.413	576.8	.4461-03	
66 90.000	.90.000	.80000	708.00	.2963-01	.3607-01	.4046-01	56.69	1.680	4.394	574.3	.4344-03	
66 90.000	.90.000	.90000	709.00	.1489-01	.1810-01	.2029-01	56.95	8479	4.568	570.9	.2181-03	
66 90.000	.90.000	.93000	710.00	.4827-01	.5881-01	.6602-01	56.39	2.722	4.422	578.0	.7083-03	
66 90.000	.90.000	.99000	711.00	.4063-01	.4953-01	.5563-01	56.21	2.284	4.440	580.2	.5965-03	
66 135.00	.93000	.714.00	.2883-01	.3535-01	.3980-01	55.32	1.598	4.525	591.4	.4255-03		
66 135.00	.99000	715.00	.1636-01	.2001-01	.2253-01	55.31	.9048	4.526	591.5	.2409-03		
66 180.00	.50000-01	.716.00	.9752-01	.1198	.1353	54.29	5.295	4.624	601.3	.1441-02		
66 180.00	.10000+00	717.00	.7946-01	.9740-01	.1098	54.85	4.358	4.571	597.4	.1172-02		
66 180.00	.20000	718.00	.4505-01	.501-01	.6191-01	55.66	2.507	4.492	587.1	.6526-03		
66 180.00	.40000	719.00	.3024-01	.3715-01	.4194-01	54.28	1.641	4.625	604.5	.4469-03		
66 180.00	.50000	720.00	.2322-01	.2847-01	.3210-01	54.78	1.272	4.577	598.2	.3426-03		
66 180.00	.60000	721.00	.2065-01	.2536-01	.2862-01	54.39	1.123	4.614	603.1	.3051-03		
66 180.00	.65000	722.00	.2573-01	.3160-01	.3567-01	54.35	1.399	603.6	.3802-03			
66 180.00	.70000	723.00	.2771-01	.3403-01	.3842-01	54.33	1.505	4.620	603.8	.4094-03		
66 180.00	.75000	724.00	.3090-01	.3793-01	.4279-01	54.53	1.685	4.602	601.4	.4563-03		
66 180.00	.78000	725.00	.7351-01	.9003-01	.1014	55.05	4.047	4.551	594.8	.1083-02		
66 180.00	.80000	726.00	.4337-01	.5326-01	.6012-01	54.38	2.359	4.616	603.2	.6408-03		
66 180.00	.90000	728.00	.2975-01	.3639-01	.4095-01	55.40	1.648	4.518	590.5	.4380-03		
66 180.00	.93000	729.00	.1100	.1348	.1520	54.92	6.042	4.564	596.5	.1623-02		
66 180.00	.96000	730.00	.1376	.1686	.1901	54.92	7.558	4.564	596.5	.2029-02		
66 180.00	.99000	731.00	.1356	.1662	.1874	54.80	7.430	4.575	597.9	.2000-02		
66 210.00	.90400	732.00	.1407	.1721	.1938	55.28	7.777	4.529	591.9	.2072-02		

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RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 SRB			SOLID BOOSTER			HH/HT	TH DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	QREF BTU/ FT2SEC			
66	225.00	.75000-01	740.00	.1772	.2170	.2444	55.12	9.769	.4545	593.9	.2612-02	
66	225.00	.10000+00	741.00	.2224	.2721	.3064	55.31	12.30	.4526	591.5	.3276-02	
66	225.00	.15000	742.00	.1664	.2029	.2279	56.18	9.350	.4443	580.6	.2444-02	
66	225.00	.20000	743.00	.1261	.1539	.1731	55.79	7.033	.4480	585.5	.1863-02	
66	225.00	.40000	745.00	.1144	.1403	.1582	54.69	6.255	.4586	599.4	.1688-02	
66	225.00	.60000	747.00	.1256	.1540	.1736	54.80	6.881	.4576	598.0	.1853-02	
66	225.00	.93000	753.00	.6119	.7868	.8868	54.88	35.23	.4568	597.0	.9168-02	
66	225.00	.96000	754.00	.4531	.5551	.6255	54.99	24.92	.4557	595.6	.6680-02	
66	225.00	.99000	755.00	.3123	.3823	.4306	55.15	17.22	.4542	593.6	.4601-02	
66	240.00	.97000	756.00	.4490	.5024	.6204	54.84	24.63	.4571	597.4	.6623-02	
66	240.00	.96000	757.00	.4544	.5571	.6280	54.83	24.91	.4573	597.6	.6704-02	
66	240.00	.90000	758.00	.4305	.5283	.5959	54.59	23.50	.4596	600.6	.6356-02	
66	247.50	.40000	760.00	.1815	.2229	.2515	54.42	9.878	.4612	602.7	.2681-02	
66	247.50	.60000	762.00	.1818	.2231	.2516	54.63	9.934	.4591	600.1	.2684-02	
66	260.00	.11500	765.00	.4851	.5931	.6674	55.49	26.92	.4509	589.3	.7140-02	
66	270.00	.20000-02	767.00	.6888	.8487	.9602	63.58	36.90	.4693	613.3	.1022-01	
66	270.00	.25000-01	768.00	.3302	.4059	.4585	54.15	17.88	.4638	606.2	.4883-02	
66	270.00	.50000-01	769.00	.2541	.3114	.3510	54.90	13.95	.4566	596.7	.3718-02	
66	270.00	.75000-01	770.00	.2577	.3148	.3540	55.70	14.35	.4489	586.6	.3790-02	
66	270.00	.10000+00	771.00	.3067	.3746	.4211	55.80	17.11	.4479	585.4	.4510-02	
66	270.00	.11000	772.00	.4378	.5346	.6010	55.81	24.43	.4479	585.3	.6436-02	
66	270.00	.13000	773.00	.1759	.2149	.2412	55.99	9.846	.4461	583.0	.2581-02	
66	270.00	.15000	774.00	.2781	.3387	.3802	56.50	15.71	.4412	576.6	.4080-02	
66	270.00	.20000	775.00	.2316	.2826	.3177	55.94	12.95	.4466	583.7	.3403-02	
66	270.00	.25000	776.00	.2001	.2449	.2759	55.18	11.04	.4539	593.3	.2948-02	
66	270.00	.30000	777.00	.1888	.2312	.2605	55.02	10.39	.4554	595.2	.2783-02	
66	270.00	.40000	778.00	.1911	.2340	.2637	55.07	10.52	.4519	594.5	.2817-02	
66	270.00	.50000	779.00	.1960	.2401	.2704	55.08	10.80	.4548	591.3	.3280-02	
66	270.00	.65000	781.00	.2228	.2725	.3068	55.33	12.33	.4524	592.0	.6710-02	
66	270.00	.70000	782.00	.2229	.2726	.3068	55.44	12.36	.4514	590.0	.3282-02	
66	270.00	.75000	783.00	.2154	.2631	.2959	55.74	12.01	.4485	586.1	.3168-02	
66	270.00	.78000	784.00	.6241	.7614	.8555	56.04	34.98	.4456	582.3	.9168-02	
66	270.00	.80000	785.00	.2341	.2861	.3219	55.56	13.00	.4503	588.5	.3144-02	
66	270.00	.90000	787.00	.2048	.2499	.2609	55.95	11.46	.4465	583.5	.3009-02	
66	270.00	.93000	788.00	.4556	.5575	.6277	55.28	25.18	.4530	592.0	.6710-02	
66	270.00	.96000	789.00	.4934	.6065	.6832	55.13	27.31	.4544	593.8	.7300-02	
66	270.00	.98000	790.00	.4676	.5723	.6446	55.20	25.81	.4537	593.0	.6889-02	
66	315.00	.30000	791.00	.1252	.1525	.1711	56.60	7.087	.4403	575.4	.1836-02	
66	315.00	.315.00	793.00	.5153	.1963	.2203	56.64	9.134	.4399	574.9	.2365-02	
66	315.00	.93000	797.00	.3535	.4309	.4938	56.33	19.92	.4428	578.7	.5189-02	
66	315.00	.99000	798.00	.3502	.4633	.4901	56.02	19.62	.4458	582.6	.5145-02	

(RE1516)

DATE 24 JAN 76  
ARC 3.5-178 1H3  
SOLID BOOSTER

ARC 3.5-178 1H3  
TRIPS

PAGE 22  
(REF 17)

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

RN/L = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

SOLID BOOSTER

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HQ BTU/LBM	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
68 5.300	.1497+07	121.0	1298.	317.1	.1750-01	.2462	.0000	

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	THW HT
68 90.000	.00000	701.00	.5255	.6419	.7220	30.75	16.16	.4489
68 90.000	.25000-01	702.00	.124	.1370	.1538	31.12	3.498	.4424
68 90.000	.50000-01	703.00	.9642-01	.1173	.1315	31.40	3.028	.4376
58 90.000	.10000+00	704.00	.4018-01	.4877-01	.5462-01	31.66	1.273	.4327
68 90.000	.40000	705.00	.3652-01	.4433-01	.4966-01	31.66	1.156	.4331
68 90.000	.80000	706.00	.3761-01	.4566-01	.5113-01	31.69	1.192	.4323
68 90.000	.90000	709.00	.2955-01	.3585-01	.4014-01	31.74	.9379	.4316
68 90.000	.93000	710.00	.7655-01	.9302-01	.1042	31.53	2.413	.4354
68 90.000	.99000	711.00	.8398-01	.1021	.1144	31.50	2.646	.4358
68 135.00	.93000	714.00	.7713-01	.9384-01	.1052	31.35	2.418	.4385
68 135.00	.59000	715.00	.8578-01	.1044	.1170	31.35	2.690	.4384
68 180.00	.59000-01	716.00	.9452-01	.1150	.1290	31.32	2.961	.4390
68 180.00	.10000+00	717.00	.4789-01	.5815-01	.6513-01	31.64	1.515	.4335
68 180.00	.20000	718.00	.2064-01	.2502-01	.2799-01	31.92	.6588	.4286
68 180.00	.40000	719.00	.5006-01	.4509-01	.5056-01	31.37	1.163	.4381
68 180.00	.50000	720.00	.3973-01	.4831-01	.5415-01	31.44	1.249	.4389
68 180.00	.60000	721.00	.3632-01	.4419-01	.4956-01	31.33	1.138	.4388
68 180.00	.65000	722.00	.3584-01	.4362-01	.4893-01	31.31	1.122	.4392
68 180.00	.70000	723.00	.3447-01	.4196-01	.4706-01	31.30	1.079	.4394
68 180.00	.75000	724.00	.2741-01	.3335-01	.3741-01	31.34	.8590	.4387
68 180.00	.79000	725.00	.9973-01	.1213	.1359	31.44	3.136	.4369
68 180.00	.80000	726.00	.4142-01	.5039-01	.5651-01	31.36	1.299	.4384
68 180.00	.90000	728.00	.2820-01	.3428-01	.3841-01	31.51	.8888	.4356
68 180.00	.93000	729.00	.8316-01	.1012	.1135	31.35	2.607	.4385
68 180.00	.96000	730.00	.7443-01	.9058-01	.1016	31.31	2.330	.4392
68 180.00	.99000	731.00	.7837-01	.9537-01	.1070	31.33	2.455	.4389
68 210.00	.90400	732.00	.3085-01	.3749-01	.4201-01	31.55	.9734	.4351

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	TH DEG. R	STN NO R=0.9
68 90.000	.00000	701.00	.5255	.6419	.7220	30.75	16.16	.4489	.593.3	
68 90.000	.25000-01	702.00	.124	.1370	.1538	31.12	3.498	.4424	.3044-02	
68 90.000	.50000-01	703.00	.9642-01	.1173	.1315	31.40	3.028	.4376	.2607-02	
58 90.000	.10000+00	704.00	.4018-01	.4877-01	.5462-01	31.66	1.273	.4327	.571.9	
68 90.000	.40000	705.00	.3652-01	.4433-01	.4966-01	31.66	1.156	.4331	.9860-03	
68 90.000	.80000	706.00	.3761-01	.4566-01	.5113-01	31.69	1.192	.4323	.1015-02	
68 90.000	.90000	709.00	.2955-01	.3585-01	.4014-01	31.74	.9379	.4316	.7972-03	
68 90.000	.93000	710.00	.7655-01	.9302-01	.1042	31.53	2.413	.4354	.575.4	
68 90.000	.99000	711.00	.8398-01	.1021	.1144	31.50	2.646	.4358	.576.0	
68 135.00	.93000	714.00	.7713-01	.9384-01	.1052	31.35	2.418	.4385	.579.6	
68 135.00	.59000	715.00	.8578-01	.1044	.1170	31.35	2.690	.4384	.2320-02	
68 180.00	.59000-01	716.00	.9452-01	.1150	.1290	31.32	2.961	.4390	.2557-02	
68 180.00	.10000+00	717.00	.4789-01	.5815-01	.6513-01	31.64	1.515	.4335	.1293-02	
68 180.00	.20000	718.00	.2064-01	.2502-01	.2799-01	31.92	.6588	.5564-03		
68 180.00	.40000	719.00	.5006-01	.4509-01	.5056-01	31.37	1.163	.4381	.1002-02	
68 180.00	.50000	720.00	.3973-01	.4831-01	.5415-01	31.44	1.249	.4389	.1074-02	
68 180.00	.60000	721.00	.3632-01	.4419-01	.4956-01	31.33	1.138	.4388	.9822-03	
68 180.00	.65000	722.00	.3584-01	.4362-01	.4893-01	31.31	1.122	.4392	.580.4	
68 180.00	.70000	723.00	.3447-01	.4196-01	.4706-01	31.30	1.079	.4394	.580.7	
68 180.00	.75000	724.00	.2741-01	.3335-01	.3741-01	31.34	.8590	.4387	.577.8	
68 180.00	.79000	725.00	.9973-01	.1213	.1359	31.44	3.136	.4369	.577.4	
68 180.00	.80000	726.00	.4142-01	.5039-01	.5651-01	31.36	1.299	.4384	.579.3	
68 180.00	.90000	728.00	.2820-01	.3428-01	.3841-01	31.51	.8888	.4356	.575.9	
68 180.00	.93000	729.00	.8316-01	.1012	.1135	31.35	2.607	.4385	.579.6	
68 180.00	.96000	730.00	.7443-01	.9058-01	.1016	31.31	2.330	.4392	.580.5	
68 180.00	.99000	731.00	.7837-01	.9537-01	.1070	31.33	2.455	.4389	.580.1	
68 210.00	.90400	732.00	.3085-01	.3749-01	.4201-01	31.55	.9734	.4351	.6335-03	

DATE 24 JAN 76

ARC 3.5-178 IH3

PAGE 23

(RE1517)

RUN NUMBER	PH#	X/L	T/C NO	ARC 3.5-178 IH3			SRB (TRIPS)			SCLID BOOSTER			H/H/T	H/H/T	H/H/T	DEG. R	TM	STN NO
				H/H/REF R=1.0	H/H/REF R=0.9	H/H/REF R=0.85	H/H/REF R=0.85	OBEF BTU/ FT2SEC	OBEF BTU/ FT2SEC	OBEF BTU/ FT2SEC	DEG. R-0.9							
68	225.00	.75000-01	740.00	.8180-01	.9948-01	1.115	31.42	2.570	4.373	577.9	.2211-02							
68	225.00	-10000+00	741.00	.4457-01	.5416-01	.6069-01	31.52	1.405	.4355	575.5	.1204-02							
68	225.00	.15000	742.00	.3821-01	.4631-01	.5181-01	31.92	1.220	.4286	566.5	.1030-02							
68	225.00	.20000	743.00	.2478-01	.3005-01	.3363-01	31.81	.7881	.4305	568.9	.6683-03							
68	225.00	.50000	745.00	.3102-01	.3773-01	.4231-01	31.40	.9741	.4377	578.4	.8368-03							
68	225.00	.60000	747.00	.3455-01	.4202-01	.4711-01	31.43	1.086	.4371	577.7	.9341-03							
68	225.00	.93000	753.00	.1254	.1523	.1707	31.53	3.953	.4353	575.3	.3387-02							
68	225.00	.95000	754.00	.8710-01	.1059	.1187	31.49	2.743	.4361	576.4	.2354-02							
68	225.00	.99000	755.00	.6923-01	.8414-01	.9429-01	31.52	2.182	.4356	575.7	.1871-02							
68	240.00	93000	756.00	.7600-01	.9238-01	1.035	31.48	2.393	.4362	576.4	.2054-02							
68	240.00	.96000	757.00	.6707-01	.8157-01	.9145-01	31.42	2.107	.4373	577.9	.1813-02							
68	240.00	.99000	758.00	.7014-01	.8527-01	.9557-01	31.47	2.207	.4364	576.7	.1895-02							
68	247.50	.40000	760.00	.3467-01	.4217-01	.4729-01	31.38	1.088	.4380	578.9	.9374-03							
68	247.50	.60000	762.00	.3479-01	.4229-01	.4740-01	31.48	1.095	.4362	573.5	.9402-03							
68	260.00	.11500	766.00	.1342	.1631	.1827	31.56	4.237	.4348	574.6	.3626-02							
68	270.00	.20000-02	767.00	.5484	.6701	.7537	30.72	16.84	.4495	574.1	.1499-01							
68	270.00	.25000-01	768.00	.1158	.1413	.1758	30.91	3.579	.4461	589.6	.3140-02							
68	270.00	.50000-01	769.00	.8977-01	.1094	.1228	31.14	2.795	.4422	584.4	.2431-02							
68	270.00	.75000-01	770.00	.8213-01	.9903-01	.1121	31.35	2.575	.4385	579.5	.2221-02							
68	270.00	.75000+00	771.00	.4087-01	.4969-01	.5070-01	31.46	4.286	.4366	577.1	.1105-02							
68	270.00	.11000	772.00	.1729	.2101	.2355	31.49	5.444	.4360	576.2	.4671-02							
68	270.00	.13000	773.00	.4957-01	.6018-01	.6739-01	31.67	1.570	.4329	572.1	.1338-02							
68	270.00	.15000	774.00	.6689-01	.8112-01	.9077-01	31.85	2.131	.4298	568.0	.1804-02							
68	270.00	.20000	775.00	.5269-01	.6397-01	.7163-01	31.69	1.670	.4326	571.8	.1422-02							
68	270.00	.25000	776.00	.4671-01	.5681-01	.6369-01	31.42	1.467	.4374	578.0	.1263-02							
68	270.00	.30000	777.00	.4087-01	.4969-01	.5070-01	31.46	4.286	.4366	577.1	.1105-02							
68	270.00	.40000	778.00	.4189-01	.5095-01	.5712-01	31.42	1.316	.4373	577.9	.1338-02							
68	270.00	.50000	779.00	.4275-01	.5196-01	.5824-01	31.49	1.346	.4361	576.3	.1155-02							
68	270.00	.65000	781.00	.4256-01	.5170-01	.5792-01	31.58	1.344	.4345	574.3	.1149-02							
68	270.00	.70000	782.00	.4187-01	.5086-01	.5697-01	31.61	1.323	.4340	573.6	.1131-02							
68	270.00	.75000	783.00	.3526-01	.4281-01	.4794-01	31.69	1.118	.4326	571.7	.9518-03							
68	270.00	.78000	784.00	.1585	.1923	.2153	31.75	5.031	.4316	570.4	.4276-02							
68	270.00	.80000	785.00	.3499-01	.4247-01	.4756-01	31.69	1.109	.4325	571.6	.9443-03							
68	270.00	.90000	787.00	.4006-01	.4861-01	.5442-01	31.74	1.272	.4217	570.5	.1081-02							
68	270.00	.93000	788.00	.9647-01	.1172	.1313	31.57	3.046	.4347	574.4	.2606-02							
68	270.00	.96000	789.00	.9867-01	.1199	.1344	31.61	1.108	.4359	576.1	.2666-02							
68	270.00	.99000	790.00	.1031	.1253	.1405	31.53	3.251	.4316	575.5	.2786-02							
68	315.00	.30000	791.00	.3204-01	.3890-01	.4357-01	31.65	1.014	.4332	572.5	.8650-03							
68	315.00	.70000	793.00	.3204-01	.3888-01	.4353-01	31.76	1.018	.4314	570.1	.8646-03							
68	315.00	.93000	797.00	.6615-01	.8033-01	.8698-01	31.62	2.092	.4337	573.2	.1766-02							
68	315.00	.99000	798.00	.7-23-01	.9018-01	.1010	31.58	2.344	.4345	574.3	.2005-02							

DATE 24 JAN 76

ARC 3.5-178 IH3

## SOLID BOOSTER

ARC 3.5-178 IH3 SRB (TRIPS)

	RN/L	HACH	FML PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS F1	RHOVOL SLUG/ FTSEC	ALPHA DEG.	ELEVON .0000
69	5.300	.5218+07	406.2	1268.	309.3	.1750-01	.8382	.0000		

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	PO PSIA	TO DEG. R	HO BTU/ LBM	RS F1	RHOVOL SLUG/ FTSEC	ALPHA DEG.	ELEVON .0000
69	90.000	701.00	.4195	.5184	.5876	52.14	21.87	.4757	613.3	.6181-02	
69	90.000	.25000-01	.702.00	.1013	.1246	.1408	53.17	.4385	.600.3	.1486-02	
69	90.000	.50000-01	.6739-01	.1072	.1209	.1295	53.85	.4706	.591.8	.1279-02	
69	90.000	.10000+00	.704.00	.5889-01	.7205-01	.8111-01	54.51	.3210	.583.5	.8601-03	
69	90.000	.40000	.705.00	.4463-01	.5463-01	.6153-01	54.37	.2427	.4539	.6521-03	
69	90.000	.80000	.708.00	.5155-01	.6310-01	.7107-01	54.38	.2803	.4539	.7533-03	
69	90.000	.90000	.709.00	.3779-01	.4620-01	.5199-01	54.70	.2067	.4508	.581.1	
69	90.000	.94000	.710.00	.6762-01	.1074	.1210	54.08	.4739	.4568	.588.8	
69	90.000	.99000	.711.00	.1087	.1334	.1504	53.88	.8559	.4587	.591.3	
69	90.000	.93000	.714.00	.6761-01	.1077	.1216	53.37	.4675	.4638	.597.8	
69	135.00	.99000	.715.00	.1087	.1337	.1510	53.31	.796	.4643	.598.5	
69	180.00	.50000+01	.716.00	.8389-01	.1031	.1164	53.42	.4481	.4633	.597.2	
69	180.00	.10000+00	.717.00	.4241-01	.5198-01	.5530-01	54.05	.2292	.4571	.6204-03	
69	180.00	.20000	.718.00	.4276-01	.5228-01	.5884-01	54.67	.2337	.4511	.6242-03	
69	180.00	.40000	.719.00	.4373-01	.5377-01	.6073-01	53.34	.2333	.4640	.598.1	
69	180.00	.50000	.720.00	.3696-01	.4540-01	.5124-01	53.57	.1980	.4648	.595.3	
69	180.00	.60000	.721.00	.3969-01	.4881-01	.5514-01	53.25	.2113	.4649	.599.3	
69	180.00	.65000	.722.00	.4033-01	.4982-01	.5607-01	53.19	.2145	.4655	.600.0	
69	180.00	.70000	.723.00	.3997-01	.4919-01	.5558-01	53.15	.2124	.4659	.600.6	
69	180.00	.75000	.724.00	.3889-01	.4782-01	.5403-01	53.25	.2071	.4849	.599.2	
69	180.00	.78000	.725.00	.9659-01	.1186	.1339	53.62	.179	.4613	.584.6	
69	180.00	.80000	.726.00	.5867-01	.7221-01	.8164-01	53.05	.3112	.4669	.601.9	
69	180.00	.90000	.728.00	.3411-01	.4186-01	.4723-01	53.74	.1833	.4601	.593.1	
69	180.00	.93000	.729.00	.8995-01	.1106	.1249	53.36	.4800	.4638	.597.9	
69	180.00	.96000	.730.00	.6911-01	.1096	.1238	53.29	.4749	.4645	.598.7	
69	180.00	.99000	.731.00	.9342-01	.1149	.1299	53.15	.4365	.4659	.600.5	
69	210.00	.90400	.732.00	.4353-01	.5332-01	.6027-01	53.75	.2340	.4600	.593.0	

\*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.95	PO PSIA	TO DEG. R	HO BTU/ LBM	RS F1	RHOVOL SLUG/ FTSEC	ALPHA DEG.	ELEVON .0000
69	90.000	.00000	701.00	.4195	.5184	.5876	52.14	21.87	.4757	613.3	.6181-02	
69	90.000	.25000-01	.702.00	.1013	.1246	.1408	53.17	.4385	.600.3	.1486-02		
69	90.000	.50000-01	.6739-01	.1072	.1209	.1295	53.85	.4706	.591.8	.1279-02		
69	90.000	.10000+00	.704.00	.5889-01	.7205-01	.8111-01	54.51	.3210	.583.5	.8601-03		
69	90.000	.40000	.705.00	.4463-01	.5463-01	.6153-01	54.37	.2427	.4539	.6521-03		
69	90.000	.80000	.708.00	.5155-01	.6310-01	.7107-01	54.38	.2803	.4539	.7533-03		
69	90.000	.90000	.709.00	.3779-01	.4620-01	.5199-01	54.70	.2067	.4508	.581.1		
69	90.000	.94000	.710.00	.6762-01	.1074	.1210	54.08	.4739	.4568	.588.8		
69	90.000	.99000	.711.00	.1087	.1334	.1504	53.88	.8559	.4587	.591.3		
69	90.000	.93000	.714.00	.6761-01	.1077	.1216	53.37	.4675	.4638	.597.8		
69	135.00	.99000	.715.00	.1087	.1337	.1510	53.31	.796	.4643	.598.5		
69	180.00	.50000+01	.716.00	.8389-01	.1031	.1164	53.42	.4481	.4633	.597.2		
69	180.00	.10000+00	.717.00	.4241-01	.5198-01	.5530-01	54.05	.2292	.4571	.6204-03		
69	180.00	.20000	.718.00	.4276-01	.5228-01	.5884-01	54.67	.2337	.4511	.6242-03		
69	180.00	.40000	.719.00	.4373-01	.5377-01	.6073-01	53.34	.2333	.4640	.598.1		
69	180.00	.50000	.720.00	.3696-01	.4540-01	.5124-01	53.57	.1980	.4648	.595.3		
69	180.00	.60000	.721.00	.3969-01	.4881-01	.5514-01	53.25	.2113	.4649	.599.3		
69	180.00	.65000	.722.00	.4033-01	.4982-01	.5607-01	53.19	.2145	.4655	.600.0		
69	180.00	.70000	.723.00	.3997-01	.4919-01	.5558-01	53.15	.2124	.4659	.600.6		
69	180.00	.75000	.724.00	.3889-01	.4782-01	.5403-01	53.25	.2071	.4849	.599.2		
69	180.00	.78000	.725.00	.9659-01	.1186	.1339	53.62	.179	.4613	.584.6		
69	180.00	.80000	.726.00	.5867-01	.7221-01	.8164-01	53.05	.3112	.4669	.601.9		
69	180.00	.90000	.728.00	.3411-01	.4186-01	.4723-01	53.74	.1833	.4601	.593.1		
69	180.00	.93000	.729.00	.8995-01	.1106	.1249	53.36	.4800	.4638	.597.9		
69	180.00	.96000	.730.00	.6911-01	.1096	.1238	53.29	.4749	.4645	.598.7		
69	180.00	.99000	.731.00	.9342-01	.1149	.1299	53.15	.4365	.4659	.600.5		
69	210.00	.90400	.732.00	.4353-01	.5332-01	.6027-01	53.75	.2340	.4600	.593.0		

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ARC 3.5-178 IH3

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(REF 1518)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 SRB (TRIPS)			SOLID BOOSTER	H/H REF R=0.9	H/H REF R=1.0	H/H REF R=0.9	H/H REF R=0.85	QOT FT2SEC	QOT BTU/FT2SEC	H/H HT	TW DEG. R	STN NO R=0.9
				75000-01	74000-00	741.00	740-01	7628-01	9355-01	1055	53.95	4.116	4.580	588.4	590.4	1116-02
69	225.00	.93000	753.00	.741.00	.3847-01	.4714-01	.5315-01	.54.11	.2.082	.9585	.588.4	.5627-03				
69	225.00	.96000	754.00	.5294-01	.6468-01	.7275-01	.54.88	.2.905	.4490	.578.8	.7723-03					
69	225.00	.99000	755.00	.3179-01	.3888-01	.4377-01	.55.55	.1.734	.4522	.582.9	.4642-03					
69	225.00	.96000	747.00	.7573-01	.4389-01	.4955-01	.53.53	.1.912	.4622	.595.8	.5237-03					
69	225.00	.60000	748.00	.3548-01	.4357-01	.4918-01	.53.59	.1.901	.4616	.595.0	.5199-03					
69	225.00	.93000	750.00	.1174	.1442	.1627	.53.62	.6.297	.4612	.594.6	.1721-02					
69	225.00	.96000	751.00	.9196-01	.1129	.1274	.53.64	.4.932	.4611	.594.4	.1347-02					
69	225.00	.99000	752.00	.8030-01	.9855-01	.1112	.53.75	.4.316	.4600	.593.0	.1176-02					
69	240.00	.93000	756.00	.7933-01	.9747-01	.1101	.53.47	.4.242	.4627	.596.5	.1163-02					
69	240.00	.96000	757.00	.7372-01	.9068-01	.1025	.53.22	.3.923	.4652	.599.7	.1082-02					
69	240.00	.99000	758.00	.7819-01	.9612-01	.1086	.53.36	.4.173	.4638	.597.9	.1447-02					
69	247.50	.40000	760.00	.4419-01	.5427-01	.6125-01	.53.61	.2.369	.4634	.594.8	.6475-03					
69	247.50	.60000	762.00	.3973-01	.4875-01	.5500-01	.53.81	.2.138	.4594	.592.3	.5818-03					
69	260.00	.11500	766.00	.1916	.2347	.2643	.54.31	.10.41	.4545	.585.9	.2801-02					
69	270.00	.20000	767.00	.4813	.5948	.6744	.52.11	.25.08	.4760	.613.6	.7092-02					
69	270.00	.25000	768.00	.1096	.1351	.1528	.52.72	.5.777	.4760	.605.9	.1611-02					
69	270.00	.50000	769.00	.8451-01	.1039	.1173	.51.37	.4.510	.4637	.597.8	.1239-02					
69	270.00	.75000	770.00	.7791-01	.9543-01	.1075	.54.24	.4.226	.4552	.585.8	.1139-02					
69	270.00	.10000	771.00	.7907-01	.4784-01	.5388-01	.54.33	.2.123	.4543	.585.7	.5710-03					
69	270.00	.11000	772.00	.2131	.2609	.2939	.54.37	.1.159	.4540	.585.2	.3114-02					
69	270.00	.13000	773.00	.6574-01	.8043-01	.9048-01	.54.64	.3.592	.4513	.581.8	.9598-03					
69	270.00	.15000	774.00	.7625-01	.9313-01	.1047	.54.97	.4.192	.4461	.577.6	.1112-02					
69	270.00	.20000	775.00	.4907-01	.6004-01	.6761-01	.54.47	.2.672	.4530	.584.0	.7168-03					
69	270.00	.25000	776.00	.4655-01	.5710-01	.6441-01	.53.84	.2.506	.4591	.591.0	.6814-03					
69	270.00	.30000	777.00	.4692-01	.5759-01	.6499-01	.53.70	.2.520	.4605	.593.6	.6873-03					
69	270.00	.40000	778.00	.5465-01	.6707-01	.7566-01	.53.78	.2.539	.4597	.592.6	.8003-03					
69	270.00	.50000	779.00	.5550-01	.6807-01	.7676-01	.53.91	.2.992	.4584	.591.0	.8123-03					
69	270.00	.65000	781.00	.5809-01	.7118-01	.8023-01	.54.11	.2.143	.4565	.588.4	.8496-03					
69	270.00	.70000	782.00	.5805-01	.7111-01	.8013-01	.54.19	.3.45	.4558	.587.5	.8488-03					
69	270.00	.75000	783.00	.5670-01	.6936-01	.7808-01	.54.55	.3.093	.4522	.582.9	.8281-03					
69	270.00	.78000	784.00	.2165	.2646	.2977	.54.78	.1.86	.4499	.580.0	.3159-02					
69	270.00	.80000	785.00	.3838-01	.4700-01	.5235-01	.54.30	.2.084	.4546	.586.0	.5610-03					
69	270.00	.90000	787.00	.5482-01	.6707-01	.7550-01	.54.53	.2.990	.4524	.583.1	.8007-03					
69	270.00	.93000	788.00	.1300	.1595	.1799	.53.86	.7.084	.4589	.591.6	.1904-02					
69	270.00	.96000	789.00	.1385	.1700	.1919	.53.63	.7.271	.4612	.594.5	.2029-02					
69	270.00	.99000	790.00	.1415	.1738	.1961	.53.63	.7.591	.4612	.594.5	.2074-02					
69	315.00	.30000	791.00	.3869-01	.4761-01	.5362-01	.54.34	.2.113	.4499	.585.5	.5683-03					
69	315.00	.70000	793.00	.4118-01	.5037-01	.5669-01	.54.59	.2.248	.4519	.582.5	.603-03					
69	315.00	.93000	797.00	.7615-01	.9334-01	.1052	.54.04	.4.115	.4572	.589.3	.1114-02					
69	315.00	.99000	798.00	.8887-01	.1087	.1226	.53.80	.4.765	.4595	.592.4	.1297-02					

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ARC 3.5-178 IH3

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(REF IS20)

## SOLID BOOSTER

## SOLID BOOSTER

## PARAMETRIC DATA

RNL = 5.000 BETA = .0000 ALPHA = -3.000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RH/L PER FT	P0 PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
76	5.300	.5017+07	406.9	1301.1293.	317.8	.1750-01	.8270	-3.000
78	5.300	.5061+07	406.6	1293.	315.8	.1750-01	.8293	-3.000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	X/L PHI	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF FT2SEC	QDOT BTU/FT2SEC	HM/HT	TW DEG. R	STN NO R=0.9
76	90.000	0.00000	701.00	.4699	.5775	.6522	.55.01	25.85	.4631	613.5
76	90.000	.250000-01	702.00	.8868-01	.1084	.1220	.56.36	4.998	.4504	595.6
76	90.000	.500000-01	703.01	.6064-01	.7369-01	.8296-01	.57.21	3.470	.4424	585.9
76	90.000	.100000+00	704.00	.5198-01	.6317-01	.7079-01	.57.95	3.012	.4354	.7668-03
76	90.000	.400000	705.00	.4446-01	.5391-01	.6032-01	.58.59	2.605	.4294	.5684
76	90.000	.800000	706.00	.1849-01	.2239-01	.2504-01	.58.87	1.088	.4268	.565.2
76	90.000	.900000	709.00	.1235-01	.1495-01	.1670-01	.59.15	.7307	.4241	.561.7
76	90.000	.930000	710.00	.4001-01	.4853-01	.5431-01	.58.49	2.340	.4303	.569.9
76	90.000	.990000	711.00	.6621-01	.8025-01	.8996-01	.58.32	3.862	.4319	.572.0
78	135.00	.730000	712.00	.5469-01	.6703-01	.7556-01	.58.25	3.024	.4569	.601.4
76	135.00	.930000	714.00	.1369	.1661	.1859	.58.41	7.995	.4311	.570.9
76	135.00	.990000	715.00	.1093	.1327	.1485	.58.33	6.376	.4318	.572.0
76	180.00	.500000-01	716.00	.1386	.1689	.1896	.57.23	7.933	.4422	.585.7
76	180.00	.100000+00	717.00	.1068	.1299	.1456	.57.75	6.168	.4373	.579.2
76	180.00	.200000	718.00	.7155-01	.8671-01	.9698-01	.58.75	4.204	.4278	.566.6
76	180.00	.400000	719.00	.5773-01	.7015-01	.7859-01	.58.00	3.349	.4349	.576.0
76	180.00	.500000	720.00	.1076	.1315	.1480	.55.89	6.011	.4513	.594.0
76	180.00	.600000	721.00	.1534-01	.1680-01	.2118-01	.55.37	.8494	.4582	.600.5
76	180.00	.650000	722.00	.8200-01	.1004	.1132	.55.47	.4548	.4552	.599.2
76	180.00	.700000	723.00	.8062-01	.9874-01	.1112	.55.50	.4474	.4550	.598.8
76	180.00	.750000	724.00	.7367-01	.9010-01	.1014	.55.82	4.112	.4512	.594.8
78	180.00	.780000	725.00	.2425	.2964	.3335	.56.02	13.59	.4500	.592.3
78	180.00	.800000	726.00	.1449	.1772	.1995	.55.80	8.085	.4521	.595.1
78	180.00	.850000	727.00	.1176	.1437	.1616	.56.13	6.603	.4489	.590.9
78	180.00	.900000	728.00	.7226-01	.8819-01	.9911-01	.56.40	4.076	.4463	.587.5
78	180.00	.930000	729.00	.2010	.2458	.2767	.55.85	11.23	.4516	.554.4

REPRODUCIBILITY OF  
PAGE IS PAGE IS

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ARC 3.5-178 1H3

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RJN. NUMBER	PHI	X/L	T/C NO	F=C 3.5-178 1H3 C+T+S			SOL ID BOOSTER			H/W/H/T DEG. R	TW BTU/ SEC	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.8	QDOT BTU/ SEC	QDOT BTU/ SEC	QDOT BTU/ SEC			
78	180.00	.95000	730.00	.1098	.1344	.1513	55.73	6.120	.4527	595.9	.1624-02	
78	180.00	.99000	731.00	.9175-01	.1123	.1261	55.83	5.108	.4533	595.6	.1357-02	
72	210.00	.950400	732.00	.7044-01	.6598-01	.9563-01	56.38	3.971	.4466	587.8	.1039-02	
78	225.00	.75000-01	740.00	.9755-01	.1132	.1341	56.92	5.465	.4500	592.3	.1441-02	
78	225.00	.100000-00	741.00	.6686-01	.8164-01	.9178-01	56.26	3.762	.4477	589.2	.9869-03	
79	225.00	.15000	742.00	.5681-01	.6913-01	.7754-01	57.16	3.247	.4391	578.0	.8361-03	
78	225.00	.20000	743.00	.7962-01	.9694-01	.1088	57.03	4.541	.4404	579.6	.1172-02	
78	225.00	.40000	745.00	.4177-01	.5102-01	.5737-01	56.16	2.346	.4486	590.5	.6167-03	
78	225.00	.50000	746.00	.1067	.1304	.1467	56.07	5.983	.4495	591.7	.1576-02	
78	225.00	.60000	747.00	.1151	.1407	.1582	56.11	6.459	.4491	591.2	.1700-02	
78	225.00	.70000	748.00	.1046	.1278	.1437	56.21	5.882	.4482	589.9	.1545-02	
78	225.00	.80000	750.00	.1362	.1663	.1868	56.54	7.708	.4451	585.8	.2011-02	
78	225.00	.85000	751.00	.9303-01	.1134	.1273	56.82	5.286	.4424	582.2	.1371-02	
78	225.00	.93000	753.00	.1636	.2000	.2250	55.93	9.146	.4509	593.5	.2417-02	
78	225.00	.96000	754.00	.6144-01	.7515-01	.8459-01	55.81	3.429	.4520	594.9	.9083-03	
78	225.00	.99000	755.00	.5291-01	.6474-01	.7289-01	55.73	2.949	.4528	595.9	.7824-03	
78	240.00	.93000	756.00	.5914-01	.7231-01	.8137-01	55.91	3.306	.4510	593.6	.8739-03	
78	240.00	.96000	757.00	.5616-01	.6316-01	.7112-01	55.69	2.874	.4532	596.5	.7633-03	
78	240.00	.99000	758.00	.2833-01	.3470-01	.3910-01	55.48	1.572	.4552	599.1	.4193-03	
78	247.00	.40000	760.00	.7593-01	.9269-01	.1042	56.34	4.277	.4670	588.3	.1121-02	
78	247.00	.50000	761.00	.9214-01	.1125	.1264	56.35	5.192	.4469	588.1	.1360-02	
78	247.00	.60000	762.00	.1058	.1292	.1452	56.32	5.960	.4471	588.5	.1562-02	
78	247.00	.65000	763.00	.1135	.1386	.1558	56.29	6.388	.4474	588.9	.1675-02	
78	247.00	.70300	764.00	.1038	.1267	.1424	56.33	5.846	.4470	588.3	.1532-02	
78	247.00	.75000	765.00	.1414	.1762	.1980	56.50	8.162	.4454	586.2	.2131-02	
78	260.00	.11500	766.00	.3696	.4510	.5068	56.47	20.87	.4457	566.6	.5453-02	
78	270.00	.20000-02	767.00	.6350	.7842	.8887	53.45	33.94	.4746	624.6	.9467-02	
78	270.00	.25000-01	768.00	.1724	.2121	.2396	54.44	9.388	.4650	612.1	.2561-02	
78	270.00	.50000-01	769.00	.1024	.1255	.1414	55.31	5.663	.4567	601.2	.1516-02	
78	270.00	.75000-01	770.00	.7935-01	.9706-01	.1092	55.83	4.430	.4518	594.7	.1173-02	
78	270.00	.100000-00	771.00	.2205	.2634	.3031	56.05	12.36	.4497	581.9	.3257-02	
78	270.00	.11000	772.00	.4778	.5837	.6564	56.15	26.83	.4488	590.7	.7055-02	
78	270.00	.13000	773.00	.1890	.2301	.2582	57.08	10.79	.4399	579.0	.2783-02	
78	270.00	.15000	774.00	.1263	.1535	.1721	57.44	7.254	.4365	574.5	.1857-02	
78	270.00	.20000	775.00	.5984-01	.7283	.8170-01	57.14	3.419	.4393	578.2	.8808-03	
78	270.00	.25000	776.00	.4290-01	.5233-01	.5878-01	56.56	2.427	.4448	585.5	.6327-C3	
78	270.00	.30000	777.00	.3650-01	.4468-01	.5022-01	56.35	2.062	.4469	588.2	.5401-03	
78	270.00	.40000	778.00	.4526-01	.5527-01	.6214-01	56.25	2.546	.4478	589.4	.6682-03	
78	270.00	.50000	779.00	.7121-01	.8695-01	.9776-01	56.26	4.006	.4477	589.3	.1051-02	
78	270.00	.60000	780.00	.7423-01	.3064-01	.1019	56.28	4.177	.4475	589.1	.1096-02	
78	270.00	.65000	781.00	.7890-01	.9630-01	.1082	56.37	4.447	.4467	588.0	.1164-02	
78	270.00	.70000	782.00	.7900-01	.9638-01	.1083	56.50	4.464	.4454	586.3	.1165-02	
78	270.00	.75000	783.00	.1304	.1590	.1766	56.64	7.388	.4440	584.5	.1923-02	

(REF 1520)

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ARC 3.5-17B IH3

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(REIS20)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-17B IH3 0+1+S		SOLID BOOSTER	QDOT BTU/ FT2SEC	QREF BTU/ FT2SEC	H/H/T	TW DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9						
78	270.00	.78000	784.00	.4418	.5385	.6045	.56.77	.25.08	.4428	.582.9	.6511-02
78	270.00	.80000	785.00	.1215-11	.1494-11	.1687-11	.54.62	.6638-10	.4634	.609.9	.1804-13
78	270.00	.85000	786.00	.1713-01	.2088-01	.2345-01	.56.69	.5711	.4436	.583.9	.2525-03
78	270.00	.90000	787.00	.1718-01	.2094-01	.2352-01	.56.71	.9743	.4434	.583.6	.2532-03
78	270.00	.93000	788.00	.2588-01	.3163-01	.3559-01	.55.97	.1448	.4504	.592.9	.3823-03
78	270.00	.96000	789.00	.2756-01	.3373-01	.3799-01	.55.60	.1.532	.4539	.597.5	.4076-03
78	270.00	.99000	790.00	.3291-01	.4033-01	.4544-01	.55.39	.1.823	.4559	.600.1	.4873-03
78	270.00	.30000	791.00	.7533-02	.9195-02	.1033-01	.56.36	.4246	.4467	.588.0	.1112-03
78	315.00	.70000	793.00	.3692-01	.4501-01	.5054-01	.56.70	.2.093	.4435	.583.8	.5442-03
78	315.00	.78000	794.00	.5804-01	.7067-01	.7930-01	.57.00	.3.308	.4406	.580.0	.8547-03
78	315.00	.80000	795.00	.1262	.1538	.1726	.56.85	.7.175	.4421	.581.9	.1859-02
78	315.00	.90000	796.00	.1702-01	.2078-01	.2336-01	.56.34	.5591	.4469	.588.3	.2512-03
78	315.00	.93000	797.00	.4785-01	.5865-01	.6610-01	.55.32	.2.647	.4566	.601.0	.7086-03
78	315.00	.99000	798.00	.4189-01	.3414-01	.4727-01	.54.96	.1.876	.4601	.605.6	.5061-03

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ARC 3.5-178 IH3

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## SRB SEPARATION NOZ

ARC 3.5-178 IH3 O+T+S

(REINOL)

SRB SEPARATION NOZ

SRB SEPARATION NOZ

RN/L = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBIN	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
7	5.300	.1394+07	119.7	1348.	329.9	.1750-01	.2381	.0000
8	5.300	.1434+07	120.0	1327.	324.5	.1750-01	.2411	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	OREF BTU/FT <sup>2</sup> SEC	QDOT BTU/FT <sup>2</sup> SEC	HT/HT	TH DEG. R	STN NO R=0.9
8	210.00	.91800	733.00	.1852	.2227	.2478	.33.87	6.273	.4065	549.8
8	210.00	.92200	734.00	.1398	.1682	.1872	33.79	4.722	.4080	551.8
8	210.00	.95000	735.00	.4298-01	.5172-01	.5757-01	33.78	1.452	.4081	551.9
8	210.00	.97000	736.00	.1771-01	.2131-01	.2371-01	33.80	.5985	.4078	551.5
8	215.00	.92500	737.00	.7860-01	.9456-01	.1052	33.82	2.658	.4075	551.1
8	215.00	.94000	738.00	.2526-01	.3039-01	.3382-01	33.81	.8541	.4075	551.1
8	215.00	.96010	739.00	.2024-01	.2435-01	.2710-01	33.80	.6840	.4078	551.5

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ARC 3.5-178 IH3

## SRB SEPARATION NOZ

ARC 3.5-178 IH3 O+T+S

SRB SEPARATION NOZ

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(REIN02)

## PARAMETRIC DATA

	RN/L	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.	ALPHA	ELEVON	.0000
13	5.300	.5037+07	406.0	1296.	316.5	.1750-01	.8271	.0000				
14	5.300	.4967+07	403.7	1303.	318.2	.1750-01	.8198	.0000				

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.1	H/HREF R=0.9	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HT	HW/HT	HW/HT	HW/HT	STN NO R=0.9
13	210.00	.9180	733.00	.2008	.2424	.2705	59.48	11.94	.4179	.551.3	.2941-02
13	210.00	.9250	734.00	.1427	.1724	.1925	59.17	8.441	.4208	.555.1	.2092-02
13	210.00	.9500	735.00	.5225-01	.6340-01	.7078-01	59.16	3.103	.4209	.555.2	.7691-03
13	210.00	.9700	736.00	.2259-01	.2729-01	.3045-01	59.36	1.341	.4191	.555.3	.3311-03
13	215.00	.9250	737.00	.8567-01	.1035	.1155	59.29	5.079	.4197	.555.3	.1256-02
13	215.00	.9400	738.00	.3005-01	.3630-01	.4052-01	59.30	.782	.4196	.553.5	.4404-03
13	215.00	.9600	739.00	.2659-01	.3212-01	.3586-01	59.27	1.576	.4199	.553.9	.3897-03

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.1	H/HREF R=0.9	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HT	HW/HT	HW/HT	HW/HT	STN NO R=0.9
13	210.00	.9180	733.00	.2008	.2424	.2705	59.48	11.94	.4179	.551.3	.2941-02	
13	210.00	.9250	734.00	.1427	.1724	.1925	59.17	8.441	.4208	.555.1	.2092-02	
13	210.00	.9500	735.00	.5225-01	.6340-01	.7078-01	59.16	3.103	.4209	.555.2	.7691-03	
13	210.00	.9700	736.00	.2259-01	.2729-01	.3045-01	59.36	1.341	.4191	.555.3	.3311-03	
13	215.00	.9250	737.00	.8567-01	.1035	.1155	59.29	5.079	.4197	.555.3	.1256-02	
13	215.00	.9400	738.00	.3005-01	.3630-01	.4052-01	59.30	.782	.4196	.553.5	.4404-03	
13	215.00	.9600	739.00	.2659-01	.3212-01	.3586-01	59.27	1.576	.4199	.553.9	.3897-03	

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ARC 3.5-178 1H3

SRB SEPARATION NOZ  
SRB SEPARATION NOZ

ARC 3.5-178 IH3 O+T+S (TRIPS) SRB SEPARATION NOZ

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(REINOS)

PARAMETRIC DATA					
RN/L	MACH	RN/L	PO	TO	RS
PER FT	PSIA	DEG. R	BTU/	FT	RHOEL
			LBH		SLUG/
			314.8	.1750-01	FT2SEC
			314.8	.1750-01	ALPHA DEG.
					.2495 .0000
					.2495 .0000
RN/L	MACH	RN/L	PO	TO	RS
PER FT	PSIA	DEG. R	BTU/	FT	RHOEL
			LBH		SLUG/
			314.8	.1750-01	FT2SEC
			314.8	.1750-01	ALPHA DEG.
					.2495 .0000
					.2495 .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	RS BTU/ LBH	ALPHA DEG.
24	5.300	.1526+07	122.1	1289.	314.8	.2495 .0000
25	5.300	.1526+07	122.1	1289.	314.8	.2495 .0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	H/H HT	HW HT	STN NO R=0.9	
25	210.00	.91600	733.00	.1175	.2169	-2441	29.158	5.175	0.45C	570.4	4.7253E-04
25	210.00	.92500	734.00	.1372	.1678	-1889	29.069	3.568	C.452	572.5	3.6544E-02
25	210.00	.95000	735.00	.0434	.0531	-5597	25.074	1.261	C.452	572.4	1.1556E-03
25	210.00	.97000	736.00	.0166	.0202	-C228	25.126	0.482	C.451	571.1	4.4096E-04
25	215.00	.92500	737.00	.0743	.0908	-1022	29.111	2.162	0.451	571.5	1.9777E-03
25	215.00	.94000	738.00	.0228	.0275	-0316	29.112	C.664	C.451	571.5	6.0772E-04
25	215.00	.96000	739.00	.0201	.0245	-C276	25.120	C.585	C.451	571.3	5.3457E-04

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ARC 3.5-17B IH3

ARC 3.5-17B IH3 0-T+S (TRIPS) SRB SEPARATION NOZ

## SRB SEPARATION NOZ

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## PARAMETRIC DATA

	RN/L	=	5.000	BETA	=	.0000	ALPHA	=	.0000	ELEVON	=	.0000
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RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOEL SLUG/FT2SEC	ALPHA DEG.
26	5.300	.4950+07	405.7	1310.	320.0	.1750-01	.8213	.0000
27	5.300	.4977+07	406.0	1306.	319.0	.1750-01	.8234	.0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF H=1.0	H/HREF R=0.9	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HJ/HT	HJ/HT	TH DEG. R	STN NO R=0.9
26	2.00	.91800	733.00	.1923	.2344	.2633	57.41	11.04	.4435	.591.5
26	210.00	.92500	734.00	.1339	.1634	.1836	57.11	7.644	.4464	.495.3
26	210.00	.95000	735.00	.5309-01	.6479-01	.7292-01	57.10	3.031	.4465	.595.1
26	210.00	.97000	736.00	.2333-01	.2845-01	.3196-01	57.29	1.337	.4447	.593.0
26	215.00	.92500	737.00	.8219-01	.1002	.1126	57.28	4.708	.4448	.593.2
26	215.00	.94000	738.00	.2841-01	.3466-01	.3894-01	57.23	1.626	.4453	.593.8
26	215.00	.95000	739.00	.2636-01	.3215-01	.3E12-01	57.23	1.508	.4453	.3923-03

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF H=1.0	H/HREF R=0.9	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HJ/HT	HJ/HT	TH DEG. R	STN NO R=0.9
26	2.00	.91800	733.00	.1923	.2344	.2633	57.41	11.04	.4435	.591.5	
26	210.00	.92500	734.00	.1339	.1634	.1836	57.11	7.644	.4464	.495.3	
26	210.00	.95000	735.00	.5309-01	.6479-01	.7292-01	57.10	3.031	.4465	.595.1	
26	210.00	.97000	736.00	.2333-01	.2845-01	.3196-01	57.29	1.337	.4447	.593.0	
26	215.00	.92500	737.00	.8219-01	.1002	.1126	57.28	4.708	.4448	.593.2	
26	215.00	.94000	738.00	.2841-01	.3466-01	.3894-01	57.23	1.626	.4453	.593.8	
26	215.00	.95000	739.00	.2636-01	.3215-01	.3E12-01	57.23	1.508	.4453	.3923-03	

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ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S

SRB SEPARATION NOZ

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(RE INDS)

## SRB SEPARATION NOZ

SRB SEPARATION NOZ

SRB SEPARATION NOZ

## PARAMETRIC DATA

RN/L = 5.000 BETA = -5.000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBMIN	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
33	5.300	.50956+07	405.2	1285.	313.7	.1750-01	.8296	.0000
34	5.300	.49885+07	405.2	1303.	318.2	.1750-01	.8229	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT12SEC	QDOT BTU/FT12SEC	HW/HT	TW	DEG. R	STN NO R=0.9
33	210.00	.91800	733.00	.3408	.4136	.4630	.57.43	19.57	.4317	.561.3	.4992-02
33	210.00	.92500	734.00	.2424	.2944	.3297	.57.21	13.86	.4338	.567.0	.3552-02
33	210.00	.95000	735.00	.7564-01	.9183-01	.1028	.57.30	4.334	.4329	.565.9	.1108-02
33	210.00	.97000	735.00	.4193-01	.5087-01	.5695-01	.57.50	2.411	.4310	.563.4	.6140-03
33	215.00	.92500	737.00	.1596	.1937	.2169	.57.38	9.155	.4322	.564.9	.2337-02
33	215.00	.94000	738.00	.6885-01	.8354-01	.9351-01	.57.47	3.957	.4312	.563.7	.1008-02
33	215.00	.96000	739.00	.5231-01	.6347-01	.7104-01	.57.47	3.006	.4312	.563.7	.7660-03

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ARC 3.5-178 1H3

ARC 3.5-178 1H3

SRB SEPARATION NOZ

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(REIN4)

## SRB SEPARATION NOZ

## PARAMETRIC DATA

RN/L	=	1.500	BETA	=	.0000	ALPHA	=	.0000	ELEVON	=	.0000
<b>***TEST CONDITIONS***</b>											
RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOVEL SLUG/ FT2SEC	SLUG/ FT2SEC	ALPHA DEG.		
64	5.300	.1509+07	122.7	1303.	318.4	.1750-01	.2492	.0000			

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	GREF R=0.85	QDOT BTU/ FT2SEC	HH/HT	HH/HT	TH DEG. R	STN NO R=0.9
64	210.00	.91800	733.00	.1514	.1829	.2041	32.79	4.963	.4199	557.2	.4050-02
64	210.00	.92500	734.00	.2054	.2482	.2771	32.73	6.722	.4209	558.5	.5196-02
64	210.00	.95000	735.00	.6665-01	.8052-01	.8986-01	32.83	2.188	.4193	556.3	.1783-02
64	210.00	.97000	736.00	.1964-01	.2371-01	.2645-01	32.93	.6467	.4175	554.0	.5251-03
64	215.63	.92500	737.00	.9530-01	.1151	.1284	32.86	3.132	.4186	555.5	.2549-02
64	215.00	.94600	738.00	.4001-01	.4833-01	.5390-01	32.92	1.317	.4177	554.3	.1070-02
64	215.00	.96000	739.00	.4288-01	.5176-01	.5773-01	32.96	1.413	.4170	553.3	.1146-02

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DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 SRB

## SRB SEPARATION NOZ

## SRB SEPARATION NOZ

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(REIN15)

## PARAMETRIC DATA

PARAMETRIC DATA

RNL = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RNL PER FT	HO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
65	5.300	.5C74+07	406.2	1291.	315.1	.1750-01	.8296	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QDOT BTU/FT <sup>2</sup> SEC	HW/HT	TW	STN NO R=0.9
65	210.00	.91800	733.00	.1550	.1899	.2139	.55.26	8.565	.4557	.598.4
65	210.00	.92500	734.00	.2323	.2848	.3210	.55.11	12.80	.4572	600.4
65	210.00	.95000	735.00	.6279-01	.1013	.1141	.55.53	4.598	.4531	.595.1
65	210.00	.97000	736.00	.2750-01	.3358-01	.3775-01	.56.11	1.543	.4476	.587.7
65	215.00	.92500	737.00	.1148	.1405	.1592	.55.45	6.363	.4539	.596.1
65	215.00	.94000	738.00	.6021-01	.7360-01	.8281-01	.55.82	3.361	.4504	.591.4
65	215.00	.96000	739.00	.6050-01	.7387-01	.8306-01	.56.10	3.394	.4477	.587.9

DATE 24 JAN 76

ARC 3.5-178 IH3

## SRB SEPARATION NOZ

SRB SEPARATION NOZ

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(REIN16)

## PARAMETRIC DATA

	RN/L	=	5.000	BETA	=	.0000	ALPHA	=	79.00	ELEVON	=	.0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	T0 DEG. R	HO BTU/ LBM	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.
66	5.300	.5112+07	406.3	1285.	313.6	.1750-01	.8321	20.00

\*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QDOT BTU/ FT2SEC	QREF BTU/ FT2SEC	TH DEG. R	TH DEG. R	STN NO R=0.9
66	210.00	.91800	733.00	.4924	.6043	.6817	.4597	.4597	600.9	600.9	.7271-02
66	210.00	.92500	734.00	.5259	.6454	.7281	.54.57	.26.87	600.9	596.9	.7765-02
66	210.00	.95000	735.00	.1990	.24.39	.2749	.54.88	.28.70	.4567	.4525	.2935-02
66	210.00	.97000	736.00	.9863-01	.1207	.1358	.55.33	.10.92	.591.3	.591.3	.1153-02
66	215.00	.92500	737.00	.6151	.7541	.8502	.54.80	.33.71	.4576	.598.0	.9075-02
66	215.00	.94000	738.00	.3655	.4477	.5044	.55.03	.20.11	.4552	.595.1	.5388-02
66	215.00	.96000	739.00	.2698	.3302	.3718	.55.23	.14.90	.4534	.592.5	.3974-02

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ARC 3.5-178 IH3

ARC 3.5-178 IH3 SRB (TRIPS)

SRB SEPARATION NOZ

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(REIN17)

## SRB SEPARATION NOZ

## PARAMETRIC DATA

RUN/L	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LB <sup>m</sup>	RS FT	RHOEL SLUG/ FT <sup>2</sup> SEC	ALPHA DEG.	ELEVON = .0000
68	5.300	.1497-07	121.0	1298.	317.1	.1750-01	.2462	.0000	

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LB <sup>m</sup>	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.	ELEVON = .0000
68	5.300	.1497-07	121.0	1298.	317.1	.1750-01	.2462	.0000	

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QOT BTU/FT <sup>2</sup> SEC	HW/HIT	TW DEG. R	STN NO R=0.9
68	210.00	.91800	733.00	.1340	.1631	.1830	31.32	4.198	.4391	.580.3
68	210.00	.92500	734.00	.182	.2216	.2487	31.27	5.692	.4400	.581.5
68	210.00	.95000	735.00	.6586-01	.8014-01	.8988-01	31.33	2.063	.4388	.580.0
68	210.00	.97000	736.00	.1554-01	.2377-01	.2665-01	31.41	.6138	.4374	.578.1
68	215.00	.92500	737.00	.6395-01	.1021	.1145	31.37	2.633	.4382	.579.2
68	215.00	.94000	738.00	.3582-01	.4357-01	.4885-01	31.41	1.125	.4374	.578.1
68	215.00	.96000	739.00	.4035-01	.4907-01	.5501-01	31.44	1.269	.4370	.577.5

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ARC 3.5-178 IH3

## SRB SEPARATION NOZ

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(REINIG)

ARC 3.5-178 IH3 SRB (TRIPS) SRB SEPARATION NOZ

PARAMETRIC DATA			
RN/L	MACH	PO PSIA	BETA = .0000
5.000			ALPHA = .0000
			ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.
69	5.300	.5218+07	*16.2	1268.	309.3	.1750-01	.8382	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	JREF	QDOT BTU/ FT2SEC	HW/HIT	HW/HIT	HW/HIT	STN NO R=0.9
69	210.00	.91800	733.00	.1330	.1638	.1852	.52.98	7.047	.4676	.602.7	.1954-02	
69	210.00	.92500	734.00	.2038	.2511	.2840	.52.84	10.77	.4689	.604.4	.2995-02	
69	210.00	.95000	735.00	.8333-01	.1025	.1159	.53.16	4.430	.4658	.600.4	.1223-02	
69	210.00	.97000	736.00	.2924-01	.3590-01	.4115-01	.53.60	1.567	.4615	.594.9	.4284-03	
69	215.00	.92500	737.00	.9725-01	.1196	.152	.53.15	5.169	.4659	.600.5	.1427-02	
63	215.00	.94000	738.00	.5659-01	.6965-01	.736-01	.53.49	3.033	.4625	.596	.8311-03	
69	215.00	.96000	739.00	.5960-01	.7317-01	.E 37-01	.53.67	3.199	.4608	.594.0	.8731-03	

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ARC 3.5-178 1H3

ARC 3.5-178 1H3 O+T+S

SRB SEPARATION NOZ

PAGE 39  
(REIN20)

## PARAMETRIC DATA

RN/L = 5.000    BETA = .0000    ALPHA = -3.000    ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	T0 DEG. R	HO BTU/LBM	RS FT	ROLL SLUG/FT2SEC	ALPHA DEG.
76	5.300	.5017+07	405.9	1301:	317.8	.1750-01	.8270	-3.000
78	5.300	.5061+07	406.6	1293:	315.8	.1750-01	.8293	-3.000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT2SEC	QDT BTU/FT2SEC	HT HT	TH DEG. R	STN NO R=0.9
78	210.00	.91800	733.00	.2005	.2453	.2761	.55.76	11.18	.4524	595.5
78	210.00	.92500	734.00	.1458	.1785	.2011	.55.53	8.097	.4546	598.4
78	210.00	.95300	735.00	.5209-01	.6376-01	.7180-01	.55.64	2.898	.4536	597.0
78	210.00	.97000	736.00	.2449-01	.2995-01	.3370-01	.55.92	1.370	.4510	593.6
78	215.00	.92500	737.00	.9494-01	.1162	.1308	.55.71	5.290	.4529	596.2
78	215.00	.94000	738.00	.3357-01	.4119-01	.4636-01	.55.78	1.878	.4523	595.3
78	215.00	.95300	739.00	.2932-01	.3587-01	.4037-01	.55.83	1.637	.4518	594.7

DATE 24 JAN 76

ARC 3.5-178 IH3

EXTERNAL TANK

ARC 3.5-178 IH3  
0+7+SPAGE 40  
(RE101)

RN/L = 1.500    BETA = .0000    ALPHA = .0000    ELEVON = .0000

EXTERNAL TANK

## PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOEL SLUG/FT2SEC	ALPHA DEG.
5	5.300	.1411+07	141.9	.487.	366.2	.1750-01	.2656	.0000
7	5.300	.1394+07	119.7	.148.	329.9	.1750-01	.2381	.0000
11	5.300	.1499+07	121.3	.1299.	317.2	.1750-01	.2467	.0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	Q00T BTU/FT2SEC	Q00T BTU/FT2SEC	H/H/T	TW DEG. R
5	.00000	.40000-01	.501.00	.1422	.1694	.1872	.44.09	.3753
5	.00000	.80000-01	.502.00	.8867-01	.1029	.1137	.44.11	.3741
5	.00000	.15000	.503.00	.3214-01	.3825-01	.4227-01	.44.11	.3739
5	.00000	.40000	.504.00	.1982-01	.2334-01	.2577-01	.44.30	.8692
5	.00000	.60000	.505.00	.4075-01	.4846-01	.5351-01	.44.31	.3711
5	.00000	.80000	.506.00	.2892-01	.3356-01	.3708-01	.44.19	.1.247
5	.00000	.40000	.507.00	.3998-01	.4756-01	.5255-01	.44.18	.3728
5	.00000	.50000	.508.00	.3277-01	.3898-01	.4307-01	.44.17	.3729
5	.00000	.60000	.509.00	.2270-01	.2701-01	.2925-01	.44.10	.1.001
5	.00000	.70000	.510.00	.2311-01	.2751-01	.3040-01	.44.04	.3731
5	.00000	.80000	.511.00	.2780-01	.3303-01	.3657-01	.44.04	.1.224
5	.00000	.45.000	.512.00	.2232-01	.3453-01	.3916-01	.44.11	.3738
5	.00000	.55.000	.513.00	.1352-01	.1595-01	.1752-01	.44.01	.5850
5	.00000	.65.000	.514.00	.1566	.1684	.2360	.44.07	.6.902
5	.00000	.75.000	.515.00	.4244-01	.5251-01	.5581-01	.44.13	.1.873
11	.00000	.50000	.516.00	.1592-01	.1925-01	.2149-01	.32.41	.5150
11	.00000	.60000	.517.00	.1374-01	.1651-01	.1955-01	.32.33	.4210
11	.00000	.67.500	.518.00	.1593-01	.2055-01	.2226-01	.32.26	.4222
11	.00000	.67.500	.519.00	.2922-01	.3535-01	.3950-01	.32.27	.5479
11	.00000	.75.000	.520.00	.2884-01	.3488-01	.3897-01	.32.27	.9429
11	.00000	.80000	.521.00	.2774-01	.3355-01	.3749-01	.32.28	.9306
11	.00000	.90000	.522.00	.4451-01	.5382-01	.6010-01	.32.36	.8954
11	.00000	.95.000	.523.00	.1559-01	.1685-01	.2105-01	.32.36	.5044
11	.00000	.9765.02	.524.00	.1145-01	.1278-01	.1278-01	.32.35	.62
11	.00000	.4463-.02	.525.00	.5407-02	.5407-02	.6041-02	.32.27	.4234

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	Q00T BTU/FT2SEC	Q00T BTU/FT2SEC	H/H/T	STN NO R=C 9
5	.00000	.40000-01	.501.00	.1422	.1694	.1872	.44.09	.3.813	.3813-02
5	.00000	.80000-01	.502.00	.8867-01	.1029	.1137	.44.11	.1.418	.2317-02
5	.00000	.15000	.503.00	.3214-01	.3825-01	.4227-01	.44.11	.3739	.8613-03
5	.00000	.40000	.504.00	.1982-01	.2334-01	.2577-01	.44.30	.8692	.5655-03
5	.00000	.60000	.505.00	.4075-01	.4846-01	.5351-01	.44.31	.1.806	.1.091-02
5	.00000	.80000	.506.00	.2892-01	.3356-01	.3708-01	.44.19	.3711	.566.3
5	.00000	.40000	.507.00	.3998-01	.4756-01	.5255-01	.44.18	.3728	.568.9
5	.00000	.50000	.508.00	.3277-01	.3898-01	.4307-01	.44.17	.3729	.569.1
5	.00000	.60000	.509.00	.2270-01	.2701-01	.2925-01	.44.10	.1.001	.3731
5	.00000	.70000	.510.00	.2311-01	.2751-01	.3040-01	.44.04	.3748	.570.7
5	.00000	.80000	.511.00	.2780-01	.3303-01	.3657-01	.44.04	.3748	.572.1
5	.00000	.45.000	.512.00	.2232-01	.3453-01	.3916-01	.44.11	.3738	.7450-03
5	.00000	.55.000	.513.00	.1352-01	.1595-01	.1752-01	.44.01	.5850	.1.071-02
5	.00000	.65.000	.514.00	.1566	.1684	.2360	.44.07	.6.902	.8.778-03
5	.00000	.75.000	.515.00	.4244-01	.5251-01	.5581-01	.44.13	.3739	.6.083-03
5	.00000	.80000	.516.00	.1592-01	.1925-01	.2149-01	.32.41	.5748	.6.194-02
5	.00000	.90000	.517.00	.2232-01	.3453-01	.3916-01	.44.11	.1.224	.3748
5	.00000	.95.000	.518.00	.1352-01	.1595-01	.1752-01	.44.01	.5850	.572.5
5	.00000	.67.500	.519.00	.1566	.1684	.2360	.44.07	.6.902	.3.197-02
5	.00000	.67.500	.520.00	.4244-01	.5251-01	.5581-01	.44.13	.1.873	.1.137-02
11	.00000	.67.500	.521.00	.1592-01	.1925-01	.2149-01	.32.41	.5150	.570.2
11	.00000	.67.500	.522.00	.1374-01	.1651-01	.1955-01	.32.33	.4210	.555.6
11	.00000	.67.500	.523.00	.1566	.1684	.2360	.44.01	.5850	.7693-03
11	.00000	.67.500	.524.00	.4244-01	.5251-01	.5581-01	.44.07	.6.902	.3.197-02
11	.00000	.67.500	.525.00	.1592-01	.1925-01	.2149-01	.32.41	.5150	.570.2
11	.00000	.67.500	.526.00	.1374-01	.1651-01	.1955-01	.32.33	.4210	.555.6
11	.00000	.67.500	.527.00	.1566	.1684	.2360	.44.01	.5850	.7693-03
11	.00000	.67.500	.528.00	.4244-01	.5251-01	.5581-01	.44.07	.6.902	.3.197-02
11	.00000	.67.500	.529.00	.1592-01	.1925-01	.2149-01	.32.41	.5150	.570.2
11	.00000	.67.500	.530.00	.1374-01	.1651-01	.1955-01	.32.33	.4210	.555.6
11	.00000	.67.500	.531.00	.1566	.1684	.2360	.44.01	.5850	.7693-03
11	.00000	.67.500	.532.00	.4244-01	.5251-01	.5581-01	.44.07	.6.902	.3.197-02
11	.00000	.67.500	.533.00	.1592-01	.1925-01	.2149-01	.32.41	.5150	.570.2
11	.00000	.67.500	.534.00	.1374-01	.1651-01	.1955-01	.32.33	.4210	.555.6
11	.00000	.67.500	.535.00	.1566	.1684	.2360	.44.01	.5850	.7693-03
11	.00000	.67.500	.536.00	.4244-01	.5251-01	.5581-01	.44.07	.6.902	.3.197-02
11	.00000	.67.500	.537.00	.1592-01	.1925-01	.2149-01	.32.41	.5150	.570.2
11	.00000	.67.500	.538.00	.1374-01	.1651-01	.1955-01	.32.33	.4210	.555.6
11	.00000	.67.500	.539.00	.1566	.1684	.2360	.44.01	.5850	.7693-03
11	.00000	.67.500	.540.00	.4244-01	.5251-01	.5581-01	.44.07	.6.902	.3.197-02
11	.00000	.67.500	.541.00	.1592-01	.1925-01	.2149-01	.32.41	.5150	.570.2
11	.00000	.67.500	.542.00	.1374-01	.1651-01	.1955-01	.32.33	.4210	.555.6
11	.00000	.67.500	.543.00	.1566	.1684	.2360	.44.01	.5850	.7693-03
11	.00000	.67.500	.544.00	.4244-01	.5251-01	.5581-01	.44.07	.6.902	.3.197-02
11	.00000	.67.500	.545.00	.1592-01	.1925-01	.2149-01	.32.41	.5150	.570.2
11	.00000	.67.500	.546.00	.1374-01	.1651-01	.1955-01	.32.33	.4210	.555.6
11	.00000	.67.500	.547.00	.1566	.1684	.2360	.44.01	.5850	.7693-03
11	.00000	.67.500	.548.00	.4244-01	.5251-01	.5581-01	.44.07	.6.902	.3.197-02
11	.00000	.67.500	.549.00	.1592-01	.1925-01	.2149-01	.32.41	.5150	.570.2
11	.00000	.67.500	.550.00	.1374-01	.1651-01	.1955-01	.32.33	.4210	.555.6
11	.00000	.67.500	.551.00	.1566	.1684	.2360	.44.01	.5850	.7693-03
11	.00000	.67.500	.552.00	.4244-01	.5251-01	.5581-01	.44.07	.6.902	.3.197-02
11	.00000	.67.500	.553.00	.1592-01	.1925-01	.2149-01	.32.41	.5150	.570.2
11	.00000	.67.500	.554.00	.1374-01	.1651-01	.1955-01	.32.33	.4210	.555.6
11	.00000	.67.500	.555.00	.1566	.1684	.2360	.44.01	.5850	.7693-03
11	.00000	.67.500	.556.00	.4244-01	.5251-01	.5581-01	.44.07	.6.902	.3.197-02
11	.00000	.67.500	.557.00	.1592-01	.1925-01	.2149-01	.32.41	.5150	.570.2
11	.00000	.67.500	.558.00	.1374-01	.1651-01	.1955-01	.32.33	.4210	.555.6
11	.00000	.67.500	.559.00	.1566	.1684	.2360	.44.01	.5850	.7693-03
11	.00000	.67.500	.560.00	.4244-01	.5251-01	.5581-01	.44.07	.6.902	.3.197-02
11	.00000	.67.500	.561.00	.1592-01	.1925-01	.2149-01	.32.41	.5150	.570.2
11	.00000	.67.500	.562.00	.1374-01	.1651-01	.1955-01	.32.33	.4210	.555.6
11	.00000	.67.500	.563.00	.1566	.1684	.2360	.44.01	.5850	.7693-03
11	.00000	.67.500	.564.00	.4244-01	.5251-01	.5581-01	.44.07	.6.902	.3.197-02
11	.00000	.67.500	.565.00	.1592					

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ARC 3.5-178 1H3

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(RETOI)

FUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 1H3 O+I+S			EXTERNAL TANK			HH/HIT	TW DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	ODET BTU/ FT2SEC	OREF BTU/ FT2SEC	OREF BTU/ FT2SEC			
526.00	.9752-01	.059	.1183	32.26	2.823	.4236	560.0	.2353-02	.5272-02			
527.00	.1961	.2372	.2650	32.29	6.332	.4230	559.3	.3520-02	.3930-02			
528.00	.1463	.1768	.1974	32.46	4.749	.4201	555.4	.1673-02	.1673-02			
529.00	.6229-01	.7529-01	.8405-01	32.42	2.020	.4207	556.2	.8543-03	.8543-03			
530.00	.3180-01	.3843-01	.4291-01	32.41	1.031	.4209	556.4	.6738-03	.6738-03			
531.00	.1785-01	.2158-01	.2410-01	32.38	.5782	.4214	557.1	.3777-03	.3777-03			
532.00	.1405-01	.1699-01	.1898-01	32.37	.4549	.4217	557.5	.7667-03	.7667-03			
533.00	.2852-01	.3450-01	.3853-01	32.31	.9215	.4226	558.7	.1069-02	.1069-02			
534.00	.3972-01	.4806-01	.5370-01	32.25	1.281	.4237	560.2	.1122-02	.1122-02			
535.00	.4173-01	.5049-01	.5641-01	32.26	1.346	.4235	559.8	.1248-02	.1248-02			
536.00	.7000-01	.8642-01	.9616-01	32.25	1.497	.4236	561.1	.1301-02	.1301-02			
537.00	.8000-01	.9839-01	.9856-01	32.23	1.560	.4240	560.5	.1332-02	.1332-02			
538.00	.4952-01	.5991-01	.5593-01	32.28	1.599	.4232	559.5	.1235-02	.1235-02			
539.00	.4596-01	.5558-01	.6208-01	32.32	1.485	.4225	558.6	.1937-03	.1937-03			
540.00	.9000-01	.9000-01	.9734-02	32.28	.2325	.4232	561.6	.3830-03	.3830-03			
541.00	.27500	.4124-01	.1723-01	.1925-01	32.27	.4233	.25	.25	.25			
542.00	.30000	.5412-01	.5393-01	.6024-01	32.31	1.441	.4226	558.7	.1199-02			
543.00	.32500	.35000	.1553	.1878	.2097	32.74	5.021	.4222	558.2	.4174-02		
544.00	.40000	.544-01	.3437-01	.4155-01	.4641-01	32.35	1.112	.4219	557.7	.9238-03		
545.00	.45000	.45000	.1607-01	.1943-01	.2170-01	32.34	.5197	.4222	558.1	.4319-03		
546.00	.50000	.50000	.1031-01	.1247-01	.1393-01	32.29	.3328	.4231	559.3	.2771-03		
547.00	.55000	.55000	.1966-01	.2379-01	.2658-01	32.26	.6343	.4235	559.9	.5287-03		
548.00	.60000	.60000	.3299-01	.3993-01	.4624-01	32.21	1.062	.4245	561.2	.8874-03		
549.00	.54000	.54000	.4111-01	.4978-01	.5664-01	32.14	1.322	.4255	562.5	.1106-02		
550.00	.55000	.55000	.3132-01	.3791-01	.4237-01	32.18	1.008	.4250	561.8	.8425-03		
551.00	.75000	.551.00	.5729-01	.6935-01	.7751-01	32.17	1.843	.4251	562.1	.1541-02		
552.00	.75000	.552.00	.6023-01	.7293-01	.8152-01	32.14	1.936	.4255	562.6	.1621-02		
553.00	.80000	.553.00	.5914-01	.7158-01	.7999-01	32.19	1.904	.4246	561.4	.1591-02		
554.00	.85000	.554.00	.5208-01	.6304-01	.7045-01	32.19	1.676	.4247	561.5	.1401-02		
555.00	.82500	.555.00	.7630-01	.9238-01	.1032	32.16	2.454	.4252	562.1	.2053-02		
556.00	.85000	.556.00	.3582-01	.4335-01	.4845-01	32.21	1.154	.4244	561.1	.9635-03		
557.00	.87500	.557.00	.4494-01	.5440-01	.6081-01	32.16	1.445	.4253	562.3	.1209-02		
558.00	.90000	.558.00	.6093-01	.7377-01	.8824-01	32.15	1.959	.4254	562.4	.1639-02		
559.00	.92500	.559.00	.1024	.1239	.1385	32.16	3.292	.4253	562.6	.2754-02		
560.00	.96000	.560.00	.7988-01	.9656-01	.1080	32.23	2.575	.4240	560.5	.24802		
561.00	.1050-01	.1050-01	.1271-01	.1420-01	.1420-01	32.27	.3389	.4234	559.7	.2824-03		
562.00	.35000	.562.00	.3547-01	.4291-01	.4793-01	32.30	1.146	.4228	559.0	.9526-03		
563.00	.37500	.563.00	.4346-01	.5257-01	.5872-01	32.30	1.404	.4228	558.9	.1168-02		
564.00	.40000	.564.00	.3572-01	.4320-01	.4825-01	32.31	1.154	.4227	558.8	.9601-03		
565.00	.45000	.565.00	.3655-01	.4421-01	.4938-01	32.29	1.180	.4230	559.3	.9825-03		
566.00	.50000	.566.00	.6259-01	.7574-01	.8463-01	32.24	2.018	.4239	560.4	.1683-02		
567.00	.55000	.567.00	.9912-01	.1200	.1340	32.22	3.194	.4242	560.7	.2666-02		
568.00	.60000	.568.00	.5476-01	.6626-01	.7404-01	32.23	1.765	.4240	560.5	.1473-02		

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ARC 3.5-178 IH3

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RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 O+T+S			EXTERNAL TANK			H/H/T	TN DEG. R	STN NO R=0.9
				H/H/REF R=1.0	H/H/REF R=0.9	H/H/REF R=0.85	QREF FT2SEC	QDOT 3T1/ FT2SEC	QREF BTU/ FT2SEC			
11 135.00	65000	569.00	492-01	.5439-01	.6080-01	.6078-01	32.14	1.444	.4256	562.7	1209-02	
11 135.00	570.00	5009-01	.6064-01	.6778-01	.32.15	1.610	.4254	562.4	.1348-02			
11 135.00	571.00	.3340-01	.4044-01	.4521-01	.32.13	1.073	.4257	562.8	.8987-03			
11 135.00	572.00	.2796-01	.3387-01	.3787-01	.32.08	.8969	.4267	564.1	.7526-03			
11 135.00	573.00	.6129-01	.7420-01	.8293-01	.32.16	1.971	.4252	562.2	.1649-02			
11 135.00	574.00	.4281-01	.5183-01	.5793-01	.32.17	1.377	.4251	562.0	.1152-02			
11 135.00	575.00	.1972-01	.2384	.2663	.32.33	6.375	.4222	558.2	.5299-02			
11 135.00	576.00	.4619-01	.5586-01	.6239-01	.32.32	1.493	.4224	559.5	.1241-02			
11 137.00	577.00	.9407-01	.1137	.1270	.32.36	3.045	.4217	557.5	.2528-02			
11 137.00	42500	.78.00	.9761-01	.1180	.1318	.32.39	.4212	556.8	.2623-02			
11 137.00	45000	.4750	.579.00	.9745-01	.1178	.32.39	.4213	556.9	.2619-02			
11 137.00	50000	.580.00	.7562-01	.9139-01	.1020	.32.42	.4252	556.1	.2032-02			
11 137.00	55000	.581.00	.3595-01	.4346-01	.4853-01	.32.37	1.164	.4216	557.4	.9660-03		
11 137.00	60000	.582.00	.2876-01	.3778-01	.3885-01	.32.30	.9289	.4227	559.9	.7730-03		
11 137.00	65000	.583.00	.3816-01	.4617-01	.5159-01	.32.24	1.230	.4238	560.3	.1026-02		
11 137.00	70000	.584.00	.3643-01	.4408-01	.4925-01	.32.25	1.175	.4236	560.0	.9796-03		
11 137.00	75000	.585.00	.2704-01	.3271-01	.3655-01	.32.25	.8720	.4236	560.1	.7271-03		
11 137.00	.80000	.586.00	.1716-01	.2076-01	.2320-01	.32.24	.5530	.4239	560.5	.4614-03		
11 137.00	.85000	.587.00	.3286-01	.3975-01	.4441-01	.32.29	1.061	.4231	559.3	.8636-03		
11 137.00	.90000	.588.00	.3949-01	.4777-01	.5336-01	.32.29	1.275	.4220	559.2	.1062-02		
11 161.00	42500	.589.00	.8396-01	.1015	.1134	.32.37	2.718	.4216	557.4	.2256-02		
11 161.00	40000	.593.00	.5286-01	.6376-01	.7109-01	.33.90	1.792	.4149	570.4	.1462-02		
11 165.00	.50000	.590.00	.8076-01	.9764-01	.1090	.32.38	2.615	.4215	557.2	.2170-02		
11 165.00	.70000	.591.00	.5027-01	.7260-01	.8088-01	.34.11	2.056	.4114	565.7	.1665-02		
11 165.00	.90000	.592.00	.5688-01	.6851-01	.7630-01	.34.15	1.943	.4108	564.8	.1571-02		
11 180.00	.00000	.594.00	.6738	.8132	.9070	.33.80	22.77	.4167	572.9	.1864-01		
7 180.00	.50000-02	.595.00	.4645	.5600	.6243	.33.96	15.77	.4140	569.2	.1284-01		
7 180.00	.00000	.596.00	.4928	.5937	.6615	.34.09	16.77	.4140	566.1	.1362-01		
7 180.00	.40000-01	.597.00	.1859	.2238	.2492	.34.17	6.350	.4104	564.3	.5132-02		
7 180.00	.80000-01	.598.00	.1410	.1698	.1892	.34.10	4.807	.4116	565.9	.3895-02		
7 180.00	.15000	.599.00	.4395-01	.5298-01	.5904-01	.34.02	1.495	.4130	567.9	.1215-02		
7 180.00	.20000	.600.00	.1656-01	.1995-01	.2222-01	.34.11	.5648	.4114	565.7	.4575-03		
7 180.00	.25000	.601.00	.6015-02	.7246-02	.8072-02	.34.11	.2052	.4114	565.7	.1662-03		
7 180.00	.30000	.602.00	.1098-01	.1323-01	.1475-01	.34.17	.3729	.4138	568.9	.3034-03		
7 180.00	.35000	.603.00	.3613-01	.4356-01	.1854-01	.34.00	1.228	.4133	568.3	.9987-03		
7 180.00	.37500	.604.00	.3946-01	.4758-01	.5304-01	.33.93	1.339	.4144	569.8	.1091-02		
7 180.00	.40000	.605.00	.4995-01	.6011-01	.6701-01	.33.94	1.692	.4143	569.6	.1378-02		
7 180.00	.42500	.606.00	.1486	.1791	.1997	.33.93	5.041	.4144	569.8	.4107-02		
7 180.00	.45000	.607.00	.3115	.3755	.4196	.33.96	10.58	.4139	569.1	.8611-02		
7 180.00	.47500	.608.00	.4731-01	.5703-01	.6357-01	.33.98	1.607	.4137	566.8	.1308-02		
7 180.00	.50000	.609.00	.8322-01	.1003	.1118	.33.99	2.829	.4134	569.4	.2300-02		
7 180.00	.52500	.610.00	.5919-01	.7135-01	.7952-01	.34.00	2.012	.4133	568.2	.1636-02		
7 180.00	.55000	.611.00	.5047-01	.6084-01	.6781-01	.33.99	1.716	.4134	568.4	.1395-02		

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(REIT01)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 O+TS		EXTERNAL TANK		MM/HT	TH DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	QREF F	Q00T BTU/ FT2SEC			
7	180.00	.57500	612.00	.6203-01	.7478-01	.8334-01	33.99	2.108	.4134	.568.5
7	180.00	.60000	613.00	.6401-01	.7117-01	.8601-01	33.98	2.175	.4136	.568.6
7	180.00	.62500	614.00	.5629-01	.6878-01	.7364-01	33.98	1.913	.4136	.568.7
7	180.00	.65000	615.00	.5147-01	.6205-01	.6916-01	33.98	1.749	.4137	.568.7
7	180.00	.67500	616.00	.6092-01	.7344-01	.8186-01	33.98	2.070	.4137	.568.8
7	180.00	.70000	617.00	.5779-01	.6965-01	.7761-01	34.04	1.957	.4127	.567.4
7	180.00	.75000	618.00	.4552-01	.5486-01	.6113-01	34.04	1.550	.4126	.567.2
7	180.00	.80000	619.00	.4034-01	.4869-01	.5427-01	34.04	1.373	.4136	.568.7
7	180.00	.85000	620.00	.3735-01	.4502-01	.5017-01	34.03	1.271	.4128	.567.6
7	180.00	.90000	621.00	.6469-01	.1023	.1140	34.06	2.891	.4123	.566.8
7	180.00	.93700	622.00	.1568	.1683	.2103	34.17	5.358	.4105	.564.4
7	180.00	.97500	623.00	.2016-01	.2426-01	.2701-01	34.26	.6907	.4089	.562.2
7	194.00	.80000-01	624.00	.1011	.1217	.1355	34.25	3.461	.4091	.562.5
7	195.00	.15010	625.00	.4206-01	.5064-01	.5639-01	34.21	1.439	.4099	.563.5
7	195.00	.30000	626.00	.2530-01	.3047-01	.3339-01	34.14	.8635	.4110	.565.1
7	195.00	.50000	627.00	.8981-01	.1082	.1205	34.17	3.069	.4105	.564.4
7	196.00	.70000	628.00	.5393-01	.6495-01	.7234-01	34.16	1.842	.4106	.564.6
7	197.00	.90000	629.00	.5675-01	.6832-01	.7608-01	34.21	1.941	.4098	.563.5
7	208.00	.15000	630.00	.4192-01	.5046-01	.5618-01	34.21	1.436	.4092	.562.6
7	208.00	.40000	631.00	.2115-01	.2545-01	.2833-01	34.31	.7259	.4080	.561.0
7	208.00	.60000	632.00	.3008-01	.3620-01	.4030-01	34.28	1.031	.4086	.561.8
7	208.00	.80000	633.00	.2554-01	.3074-01	.3423-01	34.25	.874E	.4092	.562.6
7	208.00	.93700	634.00	.1475	.1776	.1977	34.25	5.053	.4091	.562.4
7	216.00	.40000	635.00	.4066-01	.4893-01	.5448-01	34.29	1.194	.4084	.561.5
7	216.00	.50000	636.00	.6612-01	.7955-01	.8854-01	34.35	2.21	.4075	.560.3
7	216.00	.70000	637.00	.4605-01	.5542-01	.6170-01	34.28	1.571	.4086	.561.8
7	222.50	.33500	638.00	.2813-01	.3385-01	.3770-01	34.15	.9598	.4107	.564.7
7	229.00	.40000	639.00	.1738	.2091	.2328	34.30	5.960	.4084	.561.5
7	229.00	.60000	640.00	.3493-01	.4204-01	.4680-01	34.28	1.197	.4086	.561.8
7	229.00	.80000	641.00	.2303-01	.2772-01	.3087-01	34.24	.7884	.4093	.562.8

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ABC 25-178

## **EXTERNAL TANK**

PARAMETRIC DATA

THE JOURNAL OF CLIMATE

TEST CONDITIONS...

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG.	R LB
12	5.300	.4727+.07	405.7	1348.	329.
14	5.300	.4967+.03	403.7	1303.	318.
15	5.300	.4972+.07	405.4	1305.	318.

DIA		TO DEG.	R	HO BTU/ LBH	RS FT	RHO-L SLUG/ FT <sup>2</sup> SEC	ALPHA DEG.
7	1348.			329.9	.1750-01	.6071	.0000
7	1303.			318.2	.1750-01	.6198	.0000
7	1305.			318.9	.150-01	.8223	.0000

TEST DATA

Run Number	Phi	X/L	T/C No	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	Oref BTU/ F12SEC	Qdot BTU/ F12SEC	Hw/Ht	Deg. R	STN NO R=0.9
15	.00000	.40000-01	501.00	.1443	.9766-01	.1188	.1333	.57.70	.566.9	.2141-02	.1448-02
15	.00000	.15000	502.00	.4409-01	.5359-01	.6006-01	.58.01	.2.558	.593.0	.653-03	.579.2
15	.00000	.15000	503.00	.3097-01	.3753-01	.4198-01	.58.81	.1.821	.43558	.4576-03	.4282
15	.00000	.15000	504.00	.4575-01	.5537-01	.6188-01	.59.18	.2.707	.4248	.6752-03	.569.1
15	.00000	.15000	505.00	.4043-01	.4891-01	.5470-01	.59.33	.2.300	.4252	.5968-03	.564.5
15	.00000	.15000	506.00	.40000	.507.00	.4479-01	.5427-01	.6069-01	.2.639	.4272	.6617-03
15	.00000	.15000	507.00	.50000	.508.00	.6499-01	.7873-01	.6803-01	.3.831	.4269	.5959-03
15	.00000	.15000	509.00	.60000	.5129-01	.6215-01	.6950-01	.58.37	.3.020	.4276	.7577-03
15	.00000	.15000	510.00	.70000	.510.00	.4724-01	.5725-01	.6404-01	.58.83	.4280	.6980-03
15	.00000	.15000	511.00	.80000	.511.00	.5274-01	.6393-01	.7152-01	.58.75	.4288	.7794-03
15	.00000	.15000	512.00	.90000	.512.00	.4735-01	.5737-01	.6415-01	.58.91	.4270	.6994-03
15	.00000	.15000	513.00	.32000	.513.00	.4289-01	.5211-01	.5839-01	.58.11	.4348	.6351-03
15	.00000	.15000	514.00	.35000	.514.00	.2017	.2449	.2743	.58.25	.4335	.2985-02
15	.00000	.15000	515.00	.43000	.515.00	.6695-01	.8124-01	.9095-01	.58.46	.4315	.9903-03
15	.00000	.15000	516.00	.50000	.516.00	.3249-01	.3925-01	.4381-01	.61.94	.2.013	.573.5
12	.00000	.15000	517.00	.60000	.517.00	.3135-01	.3850-01	.4538-01	.61.94	.4193	.4887-03
12	.00000	.15000	518.00	.65000	.518.00	.3550-01	.4302-01	.4802-01	.61.90	.2.204	.576.6
12	.00000	.15000	519.00	.70000	.519.00	.4021-01	.4855-01	.5417-01	.62.10	.4179	.6045-03
12	.00000	.15000	520.00	.75000	.520.00	.3443-01	.4157-01	.6337-01	.62.14	.4175	.5176-03
12	.00000	.15000	521.00	.80000	.521.00	.3310-01	.3998-01	.4462-01	.61.97	.2.051	.576.3
12	.00000	.15000	522.00	.90000	.522.00	.4719-01	.5698-01	.6358-01	.62.07	.4182	.4978-03
12	.00000	.15000	523.00	.20000	.523.00	.3520-01	.4504-01	.5204-01	.62.01	.3.227	.7091-03
12	.00000	.15000	524.00	.25000	.524.00	.4586-01	.5118-01	.61.99	.2.353	.4189	.5710-03
12	.00000	.15000	525.00	.27500	.525.00	.3871-01	.4682-01	.5230-01	.61.55	.2.383	.5828-03
12	.00000	.15000	526.00	.90.000	.526.00	.5204-01	.5204-01	.5204-01	.61.97	.4229	.581.5

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(RE)T02)

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ARC 3.5-178 IH3

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(REF) T02

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 0+1+S			EXTERNAL TANK			HW/HT	TH DEF. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/F12SEC	QDOT BTU/FT12SEC	QDOT BTU/FT12SEC			
12	90.000	.3000C	526.00	.1625	.1956	.2198	61.34	9.966	4.246	584.1	.2448-02	
12	90.000	.3250C	527.00	.3727	.4513	.5046	61.21	22.81	.4260	585.7	.5617-02	
12	90.000	.35000	528.00	.1598	.1931	.2156	61.80	9.875	.4207	578.4	.2404-02	
12	90.000	.40000	529.00	.6564-01	.7939-01	.8859-01	61.77	4.055	.4209	578.7	.9878-03	
12	90.000	.45000	530.00	.3541-01	.4279-01	.4777-01	61.86	2.191	.4201	577.6	.5327-03	
12	90.000	.50000	531.00	.2178-01	.2632-01	.2937-01	61.88	1.358	.4199	577.4	.3276-03	
12	90.000	.55000	532.00	.2318-01	.2801-01	.3126-01	61.92	1.435	.4195	576.9	.3487-03	
12	90.000	.60000	533.00	.4427-01	.5349-01	.5971-01	61.88	2.740	.4199	577.3	.6659-03	
12	90.000	.65000	534.00	.4991-01	.6031-01	.6732-01	61.87	3.068	.4200	577.5	.7508-03	
12	90.000	.70000	535.00	.6417-01	.7748-01	.8645-01	62.08	3.984	.4180	574.8	.9647-03	
12	90.000	.75000	536.00	.6095-01	.7361-01	.8212-01	62.11	3.787	.4178	574.5	.5165-03	
12	90.000	.80000	537.00	.6266-01	.7571-01	.8450-01	61.91	3.879	.4195	577.0	.9426-03	
12	90.000	.85000	538.00	.5781-01	.6983-01	.7794-01	61.95	3.581	.4193	576.5	.8694-03	
12	90.000	.90000	539.00	.5499-01	.6549-01	.7453-01	62.07	3.413	.4181	575.0	.8267-03	
12	112.50	.27500	540.00	.3879-01	.4692-01	.5233-01	61.80	2.397	.4206	578.3	.5836-03	
12	112.50	.33000	541.00	.3758-01	.4543-01	.5073-01	61.75	2.321	.4210	579.0	.5656-03	
12	112.50	.32500	542.00	.7666-01	.9266-01	.1035	61.77	4.735	.4209	578.7	.1154-02	
12	112.50	.35000	543.00	.2041	.2467	.2774	61.82	12.62	.4205	578.2	.3071-02	
12	112.50	.40000	544.00	.5152-01	.6226-01	.6619-01	61.87	3.169	.4199	577.5	.7750-03	
12	112.50	.45000	545.00	.2676-01	.4441-01	.4952-01	61.89	2.275	.4198	577.3	.5529-03	
12	112.50	.50000	546.00	.2619-01	.5341-01	.5862-01	61.65	1.762	.4201	577.7	.4264-03	
12	112.50	.55000	547.00	.3920-01	.4570-01	.4833-01	61.85	2.239	.4201	577.7	.5446-03	
12	112.50	.60000	548.00	.2572-01	.3116-01	.3479-01	61.86	1.595	.4200	577.6	.3879-03	
12	112.50	.65000	549.00	.4933-01	.5922-01	.6519-01	61.75	3.028	.4211	579.0	.9582-03	
12	112.50	.70000	550.00	.7169-01	.8683-01	.9691-01	61.95	4.453	.4193	576.5	.1081-02	
12	112.50	.75000	551.00	.7680-01	.9522-01	.1063	61.91	4.879	.4196	576.9	.1185-02	
12	112.50	.80000	552.00	.6524-01	.7897-01	.8608-01	61.69	4.025	.4216	579.7	.9918-03	
12	112.50	.85000	553.00	.6134-01	.7474-01	.8291-01	61.71	3.75	.4214	579.7	.9232-02	
12	112.50	.90000	554.00	.6369-01	.7697-01	.8591-01	61.76	3.933	.4210	578.9	.9582-03	
12	123.00	.82500	555.00	.9552-01	.1154	.1259	61.84	5.907	.4203	577.9	.1437-02	
12	123.00	.85600	556.00	.3516-01	.4244-01	.4735-01	62.17	2.186	.4173	573.8	.5285-03	
12	123.00	.87500	557.00	.6996-01	.8132-01	.9453-01	61.91	4.331	.4197	577.1	.7744-03	
12	123.00	.91000	558.00	.6132-01	.9827-01	.1097	61.83	5.029	.4203	578.0	.1223-02	
12	123.00	.92500	559.00	.1470	.1777	.1934	61.82	9.069	.4205	578.2	.2212-02	
12	123.00	.96200	560.00	.1014	.1226	.1368	61.95	6.283	.4193	576.6	.1526-02	
12	123.00	.97500	561.00	.3484-01	.4210-01	.4639-01	61.88	2.156	.4199	577.4	.5241-03	
12	123.00	.98500	562.00	.5149-01	.6220-01	.6941-01	61.98	3.191	.4190	576.2	.7744-03	
12	123.00	.99000	563.00	.4356-01	.5252-01	.5872-01	62.00	2.701	.4188	575.9	.6551-03	
12	123.00	.99500	564.00	.4742-01	.5727-01	.6330-01	62.03	2.941	.4186	575.6	.7130-03	
12	123.00	.95000	565.00	.7440-01	.8987-01	.1005	61.96	4.191	.4191	576.3	.1119-02	
12	123.00	.50000	566.00	.1037	.1253	.1398	61.89	6.417	.4198	577.0	.1560-02	
12	123.00	.52500	567.00	.1116	.1348	.1504	61.92	6.907	.4196	576.9	.1678-02	
12	123.00	.53500	568.00	.7779-01	.9383-31	.1046	62.40	4.853	.4152	570.9	.1169-02	

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ARC 3.5-178 IH3

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(REIT02)PRODUCIBILITY OF THIS  
ONE PAGE IS \*

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 O+T+S		EXTERNAL TANK		HWT	TW DEG. R	STN NO R=0.9		
				H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT2SEC	QDOT BTU/FT2SEC					
12	135.00	.65000	569.00	.6326-01	.7638-01	.8521-01	.930	.4176	.9510-03			
12	135.00	.70000	570.00	.7261-01	.8764-01	.9775-01	.62.21	.4169	.573.3	.1091-02		
12	135.00	.75000	571.00	.5887-01	.7108-01	.7931-01	.62.09	.4180	.574.8	.8851-03		
12	135.00	.80000	572.00	.5039-01	.6091-01	.6801-01	.61.74	.4212	.579.1	.7583-03		
12	135.00	.85000	573.00	.7312-01	.8635-01	.9862-01	.61.87	.4200	.577.5	.1100-02		
12	135.00	.90000	574.00	.6006-01	.7258-01	.8103-01	.61.84	.4203	.577.5	.9036-03		
12	151.00	.93500	575.00	.2257	.2724	.3038	.62.24	.4165	.572.9	.3392-02		
12	157.00	.40000	576.00	.6070-01	.7336-01	.8190-01	.61.81	.4205	.578.3	.9133-03		
12	157.00	.42500	577.00	.1010	.1220	.1362	.61.90	.4197	.577.2	.1519-02		
12	157.00	.45000	578.00	.1628	.2193	.2193	.62.11	.4111	.574.5	.2447-02		
12	157.00	.47500	579.00	.1345	.1623	.1810	.62.26	.4165	.572.7	.2021-02		
12	157.00	.50000	580.00	.8959-01	.1080	.1204	.62.63	.4131	.568.0	.1345-02		
12	157.00	.55000	581.00	.5171-01	.6235-01	.6950-01	.62.54	.4139	.569.2	.7765-03		
12	157.00	.60000	582.00	.2787-01	.4569-01	.5095-01	.62.35	.4156	.571.5	.5689-03		
12	157.00	.65000	583.00	.4543-01	.5482-01	.6115-01	.62.23	.4167	.573.0	.6827-03		
12	157.00	.70000	584.00	.4411-01	.5323-01	.5936-01	.62.30	.4161	.572.1	.6628-03		
12	157.00	.75000	585.00	.3691-01	.4454-01	.4968-01	.62.27	.4163	.572.5	.5546-03		
12	157.00	.80000	586.00	.2460-01	.2970-01	.3313-01	.62.11	.4178	.574.5	.3698-03		
12	157.00	.85000	587.00	.3172-01	.3829-01	.4271-01	.62.19	.4173	.573.5	.4767-03		
12	157.00	.90000	588.00	.4906-01	.5923-01	.6303-01	.62.14	.4175	.574.1	.7375-03		
12	161.00	.42500	589.00	.9498-01	.9498-01	.1281	.61.88	.4199	.577.4	.1429-02		
12	161.00	.40000	593.00	.4868-01	.5948-01	.6672-01	.57.43	.4390	.582.9	.7253-03		
12	165.00	.50000	590.00	.8263-01	.9974-01	.1113	.62.21	.5140	.4169	.573.3	.1242-02	
12	165.00	.52000	591.00	.7395-01	.8949-01	.1001	.58.55	.4332	.4274	.566.8	.1092-02	
12	165.00	.70000	592.00	.6991-01	.8352-01	.9361-01	.58.23	.4013	.4333	.1020-02		
12	165.00	.90000	594.00	.6296	.7725	.8717	.55.21	.34.77	.4598	.609.9	.9411-02	
12	165.00	.50000-02	595.00	.5479	.6702	.7545	.56.05	.30.71	.4521	.599.6	.8167-02	
12	165.00	.10000-01	596.00	.5716	.6974	.7835	.56.76	.32.45	.4453	.590.6	.8501-02	
12	165.00	.40000-01	597.00	.2845	.3464	.3887	.57.29	.16.30	.405	.584.0	.4224-02	
12	165.00	.80000-01	599.00	.2564	.3122	.3502	.57.33	.14.70	.4399	.583.9	.3806-02	
12	165.00	.00000	599.00	.8997-01	.1095	.1229	.57.34	.5.159	.4399	.583.3	.1335-02	
12	165.00	.20000	600.00	.4500-01	.5460-01	.6111-01	.58.28	.2.623	.4308	.571.4	.6661-03	
12	165.00	.25000	601.00	.3127-01	.3790-01	.4233-01	.58.52	.1.830	.4266	.568.5	.4624-03	
12	165.00	.30000	602.00	.3154-01	.3834-01	.4298-01	.57.70	.1.820	.4363	.578.7	.4677-03	
12	165.00	.35000	603.00	.3555-01	.4321-01	.4844-01	.57.70	.2.051	.4364	.579.8	.5270-03	
12	165.00	.37500	604.00	.4607-01	.5606-01	.6286-01	.57.48	.2.649	.4384	.581.5	.6836-03	
12	165.00	.40000	605.00	.4518-01	.5499-01	.6169-01	.57.37	.2.592	.4395	.582.9	.6706-03	
12	165.00	.42500	606.00	.1308	.1594	.1768	.57.20	.7.485	.4411	.585.0	.1943-02	
12	165.00	.45000	607.00	.3574	.4350	.4880	.57.36	.20.50	.4396	.585.0	.5305-02	
12	165.00	.47500	609.00	.7151-01	.8701-01	.9759-01	.57.45	.4.108	.4367	.591.9	.1061-02	
12	165.00	.50000	610.00	.1392	.1694	.1900	.57.50	.8.005	.4393	.591.3	.2065-02	
12	165.00	.52500	610.00	.9930-01	.1208	.1374	.57.54	.5.713	.4379	.590.9	.1473-02	
12	165.00	.55000	611.00	.7793-01	.9464-01	.1061				.4380	.580.9	.1154-02

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(REIT02)

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	ARC 3.5-178 IH3 O+T+S	EXTERNAL TANK	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	TH	HM/HF	STN NO R=0.9
14	180.00	.57500	612.00	.8927-01	.1096	.1218	.57.51	.4382	.581.2	.1324-02		
14	180.00	.60000	613.00	.9386-01	.1142	.1281	.57.42	.4390	.582.2	.1393-02		
14	180.00	.62500	614.00	.8801-01	.1071	.1201	.57.41	.4391	.582.4	.1306-02		
14	180.00	.65000	615.00	.8621-01	.1049	.1177	.57.36	.4396	.583.0	.1280-02		
14	180.00	.67500	616.00	.8351-01	.1016	.1140	.57.44	.4388	.582.0	.1239-02		
14	180.00	.70000	617.00	.8120-01	.9864-01	.1105	.57.92	.4343	.576.0	.1203-02		
14	180.00	.75000	618.00	.6517-01	.8036-01	.9000-01	.58.00	.4335	.575.0	.9802-03		
14	180.00	.80000	619.00	.5530-01	.6855-01	.7693-01	.57.26	.4406	.584.3	.8359-03		
14	180.00	.85000	620.00	.5127-01	.6243-01	.7004-01	.57.29	.4403	.583.9	.7612-03		
14	180.00	.90000	621.00	.8916-01	.1085	.1217	.57.45	.4387	.581.9	.1323-02		
14	180.00	.93700	622.00	.1604	.1550	.2186	.57.71	.4363	.578.6	.2379-02		
14	180.00	.97500	623.00	.2129-01	.2579-01	.2884-01	.58.64	.4275	.567.0	.3147-03		
14	194.00	.80000-01	624.00	.1992	.19418	.2708	.58.06	.4329	.574.2	.2950-02		
14	196.00	.15000	625.00	.7785-01	.9144-01	.1057	.58.38	.4329	.571.4	.1152-02		
14	195.00	.30000	626.00	.2919-01	.3538-01	.3958-01	.58.55	.4308	.571.4	.4317-03		
14	196.00	.50000	627.00	.1147	.1391	.1558	.58.21	.4284	.568.1			
14	196.00	.70000	628.00	.6560-01	.7954-01	.8899-01	.58.45	.4315	.572.3	.1697-02		
14	197.00	.90000	629.00	.6643-01	.8063-01	.9028-01	.58.13	.4293	.569.4	.9704-03		
14	208.00	.15000	630.00	.7984-01	.9684-01	.1084	.58.32	.4323	.573.4	.9836-03		
14	208.00	.40000	631.00	.4075-01	.4928-01	.5503-01	.59.23	.4305	.571.0	.1182-02		
14	208.00	.60000	632.00	.3718-01	.4439-01	.5027-01	.59.00	.4214	.559.6	.6015-03		
14	208.00	.80000	633.00	.2830-01	.3429-01	.3932-01	.58.78	.4241	.562.4	.5449-03		
14	208.00	.93700	634.00	.1569	.1901	.2125	.58.65	.4261	.565.2	.4183-02		
14	216.00	.40000	635.00	.5210-01	.6304-01	.7044-01	.59.01	.4273	.566.8	.2319-02		
14	216.00	.50000	636.00	.8581-01	.1037	.1158	.59.31	.4240	.562.3	.7694-03		
14	216.00	.70000	637.00	.5704-01	.6892-01	.7693-01	.59.44	.4211	.558.6	.1266-02		
14	222.50	.33500	638.00	.4810-01	.5838-01	.6536-01	.58.16	.4390	.556.9	.8413-03		
14	229.00	.40000	639.00	.1672	.2026	.2266	.58.65	.4321	.573.0	.7121-03		
14	229.00	.60000	640.00	.4251-01	.5153-01	.5765-01	.58.48	.4274	.566.9	.2472-02		
14	229.00	.80000	641.00	.3217-01	.3902-01	.4368-01	.58.29	.4290	.569.0	.6287-03		
								.4309	.571.3	.4761-03		

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ARC 3.5-178 1H3

ARC 3.5-178 1H3 O+T+S (TRIPS) EXTERNAL TANK

## EXTERNAL TANK

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(REIT03)

## PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.	ELEVON = .0000
22	5.300	.1470+07	122.1	1321.	322.9	.1750-01	.2459	.0000	
23	5.300	.1606+07	119.9	1235.	300.9	.1750-01	.2513	.0000	
24	5.300	.1528+07	122.1	1289.	314.8	.1750-01	.2495	.0000	

## \*\*\*TEST CONDITIONS\*\*\*

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HW/HT	TW DEG. R	STN NO R=0.9
22	.00000	.40000-01	501.00	.1467	.1771	.1977	.33.25	.4168	.563.5
22	.00000	.80000-01	502.00	.5936-01	.1079	.1203	.33.36	.4169	.561.1
22	.00000	.15000	503.00	.6291-01	.7576-01	.6447-01	.33.48	.4103	.4149
22	.00000	.40000	504.00	.3351-01	.4045-01	.4504-01	.33.81	.1.136	.558.3
22	.00000	.60000	505.30	.3645-01	.4366-01	.4881-01	.33.91	.1.236	.9056-03
22	.00000	.80000	506.00	.2868-01	.3450-01	.3840-01	.33.93	.4077	.9329-03
22	.00000	.45.000	507.00	.3619-01	.4357-01	.4852-01	.33.79	.9733-03	.7733-03
22	.00000	.50000	508.00	.3919-01	.4717-01	.5251-01	.33.85	.1.223	.9764-03
22	.00000	.60000	509.00	.2713-01	.3265-01	.3635-01	.33.88	.4087	.551.2
22	.00000	.45.000	510.00	.2978-01	.3582-01	.3986-01	.33.95	.1.011	.4082
22	.00000	.511.00	511.00	.3306-01	.3376-01	.4425-01	.33.95	.1.122	.547.8
22	.00000	.512.00	512.00	.3501-01	.4209-01	.4682-01	.34.03	.1.191	.4069
22	.00000	.30000	513.00	.2500-01	.3014-01	.3359-01	.33.57	.4056	.547.6
22	.00000	.35000	514.00	.1929	.2204	.2456	.33.65	.4134	.545.8
22	.00000	.40000	515.00	.435-01	.5341-01	.5948-01	.33.77	.6.156	.6753-03
22	.00000	.50000	516.00	.1628-01	.1989-01	.2238-01	.28.91	.4071	.549.2
23	.00000	.60000	517.00	.1580-01	.1931-01	.2173-01	.28.89	.4056	.8028-03
23	.00000	.65000	518.00	.1824-01	.2230-01	.2510-01	.28.84	.4134	.547.6
23	.00000	.70000	519.00	.3357-01	.4105-01	.4619-01	.28.86	.4120	.8912-03
23	.00000	.75000	520.00	.3605-01	.3673-01	.4133-01	.28.87	.551.8	.7317-03
23	.00000	.80000	521.00	.2938-01	.3592-01	.4041-01	.28.88	.4499	.564.1
23	.00000	.90000	522.00	.4986-01	.6092-01	.6852-01	.26.95	.4504	.4298-03
23	.00000	.20000	523.00	.2755-01	.3370-01	.3794-01	.29.79	.4492	.4173-03
23	.00000	.25000	524.00	.1901-01	.2325-01	.2617-01	.28.60	.567.0	.564.9
23	.00000	.27500	525.00	.1755-01	.2148-01	.2419-01	.28.73	.4520	.1316-02
23	.00000	.97.00						.5024-03	.7281-03

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(REIT03)

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HW/HIT	HW/HIT	TW DEG. R	STN NO R=0.9
23	90.000	.30000	526.00	.1407	.1723	.1940	.28.70	.4.040	.4538	.565.0	.3722-02	
23	90.000	.32500	527.00	.3293	.4031	.4540	.28.71	.9.457	.4536	.568.7	.8709-02	
23	90.000	.35000	528.00	.1537	.2002	.2252	.28.88	.4.728	.4505	.564.9	.4324-02	
23	90.000	.40000	529.00	.6229-01	.7615-01	.8569-01	.28.98	.1.799	.4505	.564.9	.1645-02	
23	90.000	.45000	530.00	.3055-01	.3735-01	.4202-01	.28.89	.8827	.4503	.564.6	.8069-03	
23	90.000	.50000	531.00	.1829-01	.2236-01	.2516-01	.28.89	.5284	.4504	.564.8	.4832-03	
23	90.000	.55000	532.00	.1299-01	.1588-01	.1787-01	.28.89	.3754	.4504	.564.7	.3431-03	
23	90.000	.60000	533.00	.2416-01	.2953-01	.3233-01	.28.87	.6973	.4508	.565.2	.6381-03	
23	90.000	.65000	534.00	.4864-01	.5948-01	.6594-01	.28.84	.1.403	.4513	.565.8	.1285-02	
23	90.000	.70000	535.00	.4345-01	.5312-01	.5978-01	.28.86	.1.254	.4509	.565.3	.1148-02	
23	90.000	.75000	536.00	.4620-01	.5649-01	.6357-01	.28.86	.1.333	.4510	.565.4	.1220-02	
23	90.000	.80000	537.00	.4911-01	.6005-01	.6758-01	.28.85	.1.416	.4512	.565.7	.1297-02	
23	90.000	.85000	538.00	.4889-01	.5977-01	.6726-01	.28.88	.6.4506	.4506	.565.0	.1291-02	
23	90.000	.90000	539.00	.4527-01	.5533-01	.6225-01	.28.91	.1.309	.4499	.564.1	.1195-02	
23	112.50	.27500	540.00	.2003-01	.2450-01	.2759-01	.28.76	.5761	.4527	.567.6	.5294-03	
23	112.50	.30000	541.00	.2247-01	.2749-01	.3095-01	.28.76	.6.463	.4527	.567.6	.5939-03	
23	112.50	.32500	542.00	.6599-01	.8072-01	.9086-01	.28.80	.1.4512	.4521	.566.8	.1744-02	
23	112.50	.35000	543.00	.1701	.2081	.2342	.28.82	.1.903	.4516	.566.3	.4495-02	
23	112.50	.40000	544.00	.3479-01	.4254-01	.4787-01	.28.86	.1.004	.4509	.565.3	.9191-03	
23	112.50	.45000	545.00	.1700-01	.2079-01	.2339-01	.28.85	.4.905	.4510	.565.5	.4491-03	
23	112.50	.50000	546.00	.1071-01	.1310-01	.1474-01	.28.82	.3.087	.4516	.566.2	.2830-03	
23	112.50	.55000	547.00	.1771-01	.2166-01	.2438-01	.28.91	.5.102	.4518	.566.5	.4680-03	
23	112.50	.60000	548.00	.4077-01	.4988-01	.5615-01	.28.79	.1.174	.4522	.567.0	.1078-02	
23	112.50	.65000	549.00	.3520-01	.4307-01	.4849-01	.28.76	.1.012	.4528	.567.7	.9304-03	
23	112.50	.70000	550.00	.1769-01	.2164-01	.2456-01	.28.80	.5095	.4520	.566.8	.4675-03	
23	112.50	.75000	551.00	.5583-01	.6829-01	.7687-01	.28.79	.1.607	.4521	.566.9	.1475-02	
23	112.50	.80000	552.00	.6184-01	.7566-01	.8518-01	.28.76	.1.779	.4527	.567.6	.1634-02	
23	112.50	.85000	553.00	.5891-01	.7206-01	.8111-01	.28.80	.1.696	.4521	.566.8	.1557-02	
23	112.50	.90000	554.00	.5172-01	.6326-01	.7121-01	.28.81	.1.490	.4519	.566.6	.1367-02	
23	112.50	.95000	555.00	.8172-01	.9599-01	.1126	.28.76	.2.351	.4527	.567.6	.2160-02	
23	123.00	.81000	556.00	.3561-01	.4357-01	.4906-01	.28.76	.1.024	.4527	.567.6	.9413-03	
23	123.00	.87500	557.00	.4176-01	.5661-01	.6273-01	.28.75	.1.330	.4529	.567.9	.1223-02	
23	123.00	.90000	558.00	.5810-01	.7109-01	.8004-01	.28.76	.1.671	.4528	.567.7	.1536-02	
23	123.00	.92500	559.00	.1189	.1454	.1637	.28.77	.3.419	.4526	.567.5	.3141-02	
23	123.00	.96000	560.00	.9291-01	.1136	.1279	.28.84	.2.679	.4513	.565.9	.2455-02	
23	123.00	.97500	561.00	.1785-01	.2184-01	.2458-01	.28.78	.5.137	.4524	.567.3	.4718-03	
23	123.00	.99000	562.00	.4289-01	.5246-01	.5905-01	.28.81	.1.235	.4519	.566.6	.1133-02	
23	123.00	.99500	563.00	.3299-01	.4035-01	.4411-01	.28.81	.9504	.4518	.566.5	.8717-03	
23	123.00	.99800	564.00	.4081-01	.4991-01	.5618-01	.28.82	.1.176	.4517	.566.4	.1078-02	
23	135.00	.135.00	565.00	.5152-01	.6302-01	.7095-01	.28.79	.1.483	.4522	.567.0	.1352-02	
23	135.00	.135.00	566.00	.6965-01	.8522-01	.9594-01	.28.76	.2.003	.4527	.567.6	.1841-02	
23	135.00	.135.00	567.00	.8609-01	.1053	.1166	.28.77	.2.476	.4526	.567.5	.2276-02	
23	135.00	.135.00	568.00	.5962-01	.6713-01	.7400	.28.74	.1.400	.4531	.568.2	.1288-02	

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ARC 3.5-178 IH3

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(REFIT03)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3			ARC 3.5-178 IH3 Q+T+S (TRIPS) EXTERNAL TANK			QDET BTU/FT2SEC	QDET BTU/FT2SEC	H4/H5	TW R	DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/F12SEC	QREF BTU/F12SEC	QREF BTU/F12SEC						
23	135.00	.65000	569.00	.4777-01	.5847-01	.6585-01	28.71	1.371	.4537	568.9	1263-02				
23	135.00	.70000	570.00	.5890-01	.6114-01	.6814-01	28.76	1.694	.4527	567.6	1557-02				
23	135.00	.75000	571.00	.5113-01	.5757-01	.28.76	1.202	.4527	567.7	1105-02					
23	135.00	.80000	572.00	.3233-01	.3957-01	.4457-01	28.71	.9281	.4537	568.9	8549-03				
23	135.00	.85000	573.00	.6235-01	.7631-01	.8591-01	28.76	1.793	.4528	567.8	1648-02				
23	135.00	.90000	574.00	.4995-01	.6112-01	.6681-01	28.76	1.437	.4527	567.6	1320-02				
22	151.00	.93500	575.00	.1947	.2380	.2678	28.66	5.619	.4508	565.3	5142-02				
23	157.00	.40000	576.00	.5501-01	.6730-01	.7577-01	28.77	1.583	.4526	567.5	1454-02				
23	157.00	.42500	577.00	.9282-01	.1135	.1278	28.80	2.672	.4520	566.7	2453-02				
23	157.00	.45000	578.00	.1193	.1459	.1642	28.81	3.436	.4518	566.5	3152-02				
23	157.00	.47500	579.00	.1203	.1471	.1655	28.82	3.466	.4516	566.2	3177-02				
23	157.00	.50000	580.00	.8020-01	.9809-01	.1104	28.62	2.311	.4517	566.3	2119-02				
23	157.00	.55000	581.00	.4069-01	.4977-01	.5602-01	28.80	1.172	.4519	566.6	1075-02				
23	157.00	.60000	582.00	.3489-01	.4268-01	.4805-01	28.78	1.004	.4524	567.2	9221-03				
23	157.00	.65000	583.00	.4289-01	.5248-01	.5908-01	28.77	1.234	.4526	567.5	134-02				
23	157.00	.70000	584.00	.3832-01	.4443-01	.5000-01	28.81	1.047	.4518	566.4	9598-03				
23	157.00	.75000	585.00	.3081-01	.3775-01	.4249-01	28.81	.8893	.4518	566.4	8156-03				
23	157.00	.80000	586.00	.1718-01	.2102-01	.2367-01	28.78	.4945	.4524	567.3	4541-03				
23	157.00	.85000	587.00	.2620-01	.3216-01	.3620-01	28.81	.7576	.4518	566.5	.6949-03				
23	157.00	.90000	588.00	.3758-01	.4572-01	.5145-01	29.81	1.077	.4519	566.6	.9876-03				
23	161.00	.42500	589.00	.8951-01	.1034-01	.1164	28.79	2.433	.4522	567.0	.2233-02				
24	165.00	.40000	593.00	.5283-31	.6416-01	.7186-01	31.53	1.666	.4335	568.7	1413-02				
23	165.00	.50000	594.00	.7685-01	.8400-01	.1058	28.80	2.213	.4520	566.7	.2031-02				
24	165.00	.70000	595.00	.5472-01	.6633-01	.7420-01	31.81	1.741	.4286	562.3	1462-02				
24	165.00	.90000	596.00	.5904-01	.7155-01	.8003-01	31.85	1.880	.4281	561.6	1577-02				
24	180.00	.00000	598.00	.6740	.8217	.9228	30.96	20.87	.4436	581.9	1809-01				
24	180.00	.50000-02	599.00	.4754	.5786	.6491	31.18	14.82	.4397	576.7	.1274-01				
24	180.00	.10000-01	600.00	.596.00	.5218	.6343	7109	31.38	.4362	572.2	.1397-01				
24	180.00	.40000-01	601.00	.597.00	.1919	.2330	.2609	31.59	.6.063	.4325	.5133-02				
24	180.00	.80000-01	602.00	.598.00	.1494	.1813	.2030	31.59	4.718	.4325	.3994-02				
24	190.00	.15000	603.00	.599.00	.7486-01	.9089-01	.1018	31.55	2.362	.4332	.2002-02				
24	190.00	.20000	604.00	.600.00	.2765-01	.3354-01	.3753-01	31.73	.8775	.4301	.7391-03				
24	190.00	.25000	605.00	.601.00	.1126-01	.1365-01	.1528-01	31.77	.3576	.4294	.3009-03				
24	190.00	.30000	606.00	.602.00	.1007-01	.1222-01	.1368-01	31.61	.3182	.4324	.2692-03				
24	180.00	.35000	607.00	.603.00	.3522-01	.4273-01	.4784-01	31.65	1.115	.4315	.9416-03				
24	180.00	.37500	608.00	.604.00	.4648-01	.5643-01	.6319-01	31.59	1.468	.4325	.1243-02				
24	180.00	.40000	609.00	.605.00	.4715-01	.5725-01	.6411-01	31.57	1.468	.4330	.1261-02				
24	180.00	.42500	610.00	.606.00	.1241	.1507	.1687	31.55	3.914	.4333	.3319-02				
24	180.00	.45000	607.00	.607.00	.3903	.4738	.5306	31.60	12.33	.4324	.1044-01				
24	180.00	.47500	608.00	.608.00	.6370-01	.7731-01	.8656-01	31.62	2.014	.4321	.566.9	.17.3-02			
24	180.00	.50000	609.00	.609.00	.1117	.1355	.1517	31.64	3.523	.4318	.566.4	.2986-02			
24	180.00	.52500	610.00	.610.00	.7823-01	.9193-01	.1063	31.64	2.475	.4316	.566.2	.2092-02			
24	180.00	.55000	611.00	.611.00	.5627-01	.7071-01	.7917-01	31.64	1.844	.4317	.566.3	.1558-02			

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(RE1103)

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	EXTERNAL TANK	QDOT BTU/FT2SEC	QREF BTU/FT2SEC	HW/HT	TW DEG. R	STN NO R=0.9
.57500	.60000	612.00	6361-01	.7719-01	.8642-01	.9070-01	31.63	2.013	.4317	566.3	.1701-02	
.6875-01	.6875-01	.8101-01	.8546-01	.9070-01	.9111	.4319	566.6	.1785-02				
.6289-01	.6289-01	.7633-01	.8546-01	.9111	.989	.4320	566.7	.1682-02				
.5678-01	.5678-01	.6891-01	.7715-01	.9111	.795	.4320	566.7	.1518-02				
.5937-01	.5937-01	.7205-01	.9056-01	.9111	.678	.4319	566.5	.1587-02				
.617.00	.617.00	.6329-01	.7677-01	.8591-01	.9111	.008	.4302	.564.3	.1592-02			
.70000	.70000	.7000	.4405-01	.5342-01	.5978-01	.31.73	.398	.4301	564.2	.1177-02		
.75000	.75000	.618.00	.3753-01	.4555-01	.5100-01	.31.61	.86	.4323	567.1	.1004-02		
.80000	.80000	.619.00	.4126-01	.4126-01	.419-01	.31.61	.077	.4314	565.9	.9092-03		
.85000	.85000	.621.00	.9370-01	.9370-01	.149	.31.73	.451	.4301	564.3	.2065-02		
.90000	.90000	.622.00	.1298	.1573	.1573	.31.65	.133	.4280	.561.4	.3465-02		
.93700	.93700	.623.00	.1778-01	.2153-01	.24.3-01	.32.02	.589	.4251	557.7	.4745-03		
.97500	.97500	.624.00	.1013	.1228-01	.13.4	.31.77	.3217	.4295	563.4	.2706-02		
.194.00	.194.00	.625.00	.5910-01	.7166-01	.8017-01	.31.78	.878	.4293	563.1	.1579-02		
.196.00	.196.00	.626.00	.2666-01	.3232-01	.3615-01	.31.62	.8184	.4286	562.2	.7122-03		
.195.00	.195.00	.627.00	.8198-01	.9939-01	.1112	.31.81	.608	.4287	562.4	.2190-02		
.196.00	.196.00	.628.00	.5151-01	.6243-01	.6983-01	.31.84	.660	.4282	561.7	.1376-02		
.197.00	.197.00	.629.00	.5054-01	.6123-01	.6848-01	.31.87	.611	.4276	561.0	.1349-02		
.208.00	.208.00	.630.00	.6450-01	.7818-01	.6746-01	.31.81	.052	.4287	562.4	.1723-02		
.208.00	.208.00	.631.00	.2141-01	.2592-01	.2898-01	.31.95	.6839	.4263	559.2	.5714-03		
.208.00	.208.00	.632.00	.2405-01	.2915-01	.3259-01	.31.91	.7677	.4270	562.4	.6423-03		
.208.00	.208.00	.633.00	.2169-01	.2629-01	.2940-01	.31.87	.6915	.4276	560.9	.5793-03		
.208.00	.208.00	.634.00	.1256	.1256	.1701	.31.89	.004	.4274	560.6	.3352-02		
.216.00	.216.00	.635.00	.4736-01	.5735-01	.6411-01	.31.99	.515	.4257	558.5	.1264-02		
.50000	.50000	.636.00	.6952-01	.8422-01	.9413-01	.31.96	.222	.4262	559.0	.1856-02		
.216.00	.216.00	.637.00	.4847-01	.5870-01	.6563-01	.31.95	.1549	.4263	559.2	.1294-02		
.222.50	.222.50	.638.00	.3232-01	.3918-01	.4384-01	.31.78	.027	.4292	563.1	.8634-03		
.229.00	.229.00	.639.00	.1562	.1892	.2115	.31.97	.995	.4260	558.8	.4170-02		
.60000	.60000	.640.00	.3738-01	.4522-01	.5064-01	.31.90	.192	.4272	560.5	.9980-03		
.80000	.80000	.641.00	.2844-01	.3447-01	.3855-01	.31.85	.9059	.4280	561.5	.7596-03		

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ARC 3.5-178 IH3

## EXTERNAL TANK

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(REF ID: A)

ARC 3.5-178 IH3 O+T+S (TRIPS) EXTERNAL TANK

## EXTERNAL TANK

PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOEL FT SEC	ALPHA DEG.
27	5.300	.4977+07	406.0	1306.	319.0	.1750-01	.8234	.0000
28	5.300	.4957+07	405.6	1308.	319.6	.1753-01	.8216	.0000
29	5.300	.4977+07	406.3	1307.	319.2	.1750-01	.8238	.0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOEL FT SEC	QDOT BTU/FT SEC	QREF BTU/FT SEC	HH/IHT	TH DEG. R	STN NO R=0.9
29	00000	40000-01	501.00	1432	1747	1963	57.12	8.178	.4453	592.4	.2129-02			
29	00000	.80000-01	502.00	.9378-01	1143	283	57.45	5.388	.4422	588.2	.1391-02			
29	00000	.15000	503.00	.1148	1139	1567	57.84	6.642	.4386	583.4	.1701-02			
29	00000	.40000	504.00	.4419-01	.5361-01	6000-01	58.69	2.594	.4306	572.8	.6531-03			
29	00000	.60000	505.00	.4479-01	.5442-01	6061-01	59.04	2.642	.4272	568.3	.6605-03			
29	00000	.80000	506.00	.3501-01	.4240-01	4741-01	59.09	2.069	.4268	567.7	.5187-03			
29	00000	.40000	507.00	.4701-01	.5288-01	5917-01	58.79	2.564	.4296	571.5	.6441-03			
29	00000	.50000	508.00	.6492-01	.7869-01	8803-01	58.91	3.824	.4235	570.0	.9588-03			
29	00000	.60000	509.00	.4949-01	.5997-01	6709-01	58.88	2.913	.4288	570.4	.7307-03			
29	00000	.70000	510.00	.4603-01	.5579-01	6240-01	58.95	2.714	.4281	569.5	.6798-03			
29	00000	.80000	511.00	.5165-01	.6626-01	7414-01	58.83	3.216	.4292	570.9	.3013-03			
29	00000	.90000	512.00	.4613-01	.5589-01	6259-J1	59.05	2.724	.4271	568.2	.6610-03			
29	00000	.30000	513.00	.4185-01	.5090-01	5705-01	58.06	2.430	.4365	580.7	.6198-03			
29	00000	.35000	514.00	.2002	.2433	.2726	58.18	1.165	.4353	579.1	.2963-02			
29	00000	.515.00	.40000	.6785-01	.8239-01	.9227-01	58.42	3.64	.4331	576.1	.1904-02			
28	00000	.50000	516.00	.3226-01	.3900-01	.4355-01	59.70	1.326	.4214	561.4	.4762-03			
28	00000	.60000	517.00	.3290-01	.3978-01	.4441-01	59.72	1.965	.4212	561.1	.4857-03			
28	00000	.65000	518.01	.3799-01	.4594-01	.5130-01	59.67	2.267	.4217	561.7	.5609-03			
28	00000	.67.500	519.00	.4278-01	.5171-01	.5773-01	59.77	2.557	.4207	560.5	.6314-03			
28	00000	.75.000	520.00	.3596-01	.4345-01	.4850-01	59.85	2.152	.4200	559.5	.5308-03			
28	00000	.80000	521.00	.3705-01	.4478-01	.4999-01	59.85	2.218	.4200	559.5	.3469-03			
28	00000	.82.000	522.00	.5301-01	.6401-01	.7142-01	60.03	3.182	.4183	557.2	.7817-03			
28	00000	.87.500	523.00	.6046-01	.7310-01	.8164-01	59.65	3.606	.4218	561.9	.8926-03			
28	00000	.90.000	524.00	.4223-01	.5107-01	.5704-01	59.63	2.518	.4220	562.2	.6238-03			
28	00000	.90.000	525.00	.433C9-01	.5217-01	.5833-01	59.22	2.551	.4259	567.4	.6369-03			

REFLECTIBILITY OF THE  
ORIGINAL PAGE IS POOR

DATE 24 JAN 76

ARC 3.5-178 1H3

PAGE 53  
(REF ID: A1)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 1H3 O+T+S (TRIPS) EXTERNAL TANK		QDOT BTU/FT <sup>2</sup> SEC	QREF BTU/FT <sup>2</sup> SEC	HW/HT	TN DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9					
28	90.000	.32500	526.00	.1728	.2095	.2343	.58 .99	.10 .20	.4281	.570.3
28	90.000	.35000	528.00	.3472	.4210	.4711	.58 .81	.91 .42	.4298	.572.5
28	90.000	.40000	529.00	.1951	.2362	.2639	.59 .37	.11 .59	.4244	.565.4
28	90.000	.45000	530.00	.7143-0	.8643-01	.9657-01	.59 .45	.4-2.6	.4238	.564.5
28	90.000	.50000	531.00	.2230-01	.4461-01	.4962-01	.59 .56	.2 .197	.4227	.563.1
28	90.000	.55000	532.00	.2157-01	.2697-01	.3012-01	.59 .62	.1 .329	.4222	.562.4
28	90.000	.60000	533.00	.2608-01	.2912-01	.59 .68	.1 .288	.4215	.561.5	.3185.03
28	90.000	.65000	534.00	.5508-01	.6151-01	.6151-01	.59 .66	.2 .718	.4217	.561.8
28	90.000	.70000	535.00	.5476-01	.6622-01	.7396-01	.59 .61	.3 .264	.4222	.562.4
28	90.000	.75000	536.00	.6969-01	.8424-01	.9406-01	.59 .74	.4 .164	.4210	.560.8
28	90.000	.80000	537.00	.6757-01	.8276-01	.9239-01	.59 .82	.4 .097	.4203	.559.9
28	90.000	.85000	538.00	.6128-01	.7402-01	.8164-01	.59 .85	.4 .044	.4200	.559.5
28	90.000	.90000	539.00	.6063-01	.7320-01	.8165-01	.59 .91	.3 .676	.4198	.557.9
28	112.50	.27500	540.00	.4420-01	.5345-01	.5969-01	.59 .61	.3 .646	.4173	.555.9
28	112.50	.30000	541.00	.4254-01	.5145-01	.5747-01	.59 .56	.2 .635	.4222	.562.5
28	112.50	.32500	542.00	.8621-01	.1043	.1165	.59 .55	.5 .533	.6282	.563.1
28	112.50	.35000	543.00	.2099	.2539	.2836	.59 .58	.5 .134	.4228	.563.2
28	112.50	.40000	544.00	.5397-01	.6525-01	.7266-01	.59 .70	.5 .222	.4225	.562.8
28	112.50	.45000	545.00	.3708-01	.4482-01	.5005-01	.59 .71	.2 .214	.4214	.561.4
28	112.50	.50000	546.00	.2783-01	.3365-01	.3758-01	.59 .68	.1 .661	.4213	.561.2
28	112.50	.55000	547.00	.3588-01	.4459-01	.4979-01	.59 .67	.2 .201	.4216	.561.6
28	112.50	.60000	548.00	.2745-01	.3319-01	.3766-01	.59 .70	.1 .639	.4214	.561.7
28	112.50	.65000	549.00	.5411-01	.6547-01	.7317-01	.59 .62	.3 .228	.4221	.562.4
28	112.50	.70000	550.00	.7237-01	.8747-01	.9765-01	.59 .78	.4 .327	.4206	.560.3
28	112.50	.75000	551.00	.8071-01	.9755-01	.1089	.59 .78	.4 .824	.4207	.560.4
28	112.50	.80000	552.00	.6857-01	.8289-01	.9256-01	.59 .70	.4 .093	.4214	.561.4
28	112.50	.85000	553.00	.6541-01	.7906-01	.8828-01	.59 .72	.3 .906	.4212	.561.1
28	112.50	.90000	554.00	.6540-01	.7904-01	.8825-01	.59 .78	.3 .909	.4207	.560.4
28	123.00	.82500	555.00	.9690-01	.1171	.1307	.59 .82	.5 .796	.4203	.553.9
28	123.00	.85000	556.00	.4144-01	.5003-01	.5582-01	.60 .06	.2 .489	.4180	.556.9
28	123.00	.87500	557.00	.7179-01	.8672-01	.9679-01	.59 .92	.4 .372	.4193	.558.6
28	123.00	.90000	558.00	.8630-01	.1043	.1164	.59 .90	.5 .169	.4195	.558.8
28	123.00	.92500	559.00	.1565	.1691	.2111	.59 .88	.6 .374	.4197	.559.1
28	123.00	.96000	560.00	.1035	.1250	.1396	.59 .86	.6 .195	.4199	.559.3
28	135.00	.32500	561.00	.3860-01	.4668-01	.5214-01	.59 .59	.2 .300	.4224	.562.7
28	135.00	.35000	562.00	.5600-01	.6771-01	.7562-01	.59 .64	.3 .340	.4219	.562.1
28	135.00	.37500	563.00	.4449-01	.5379-01	.6006-01	.59 .68	.2 .655	.4216	.561.6
28	135.00	.40000	564.00	.5079-01	.6140-01	.6856-01	.59 .72	.3 .033	.4212	.561.1
28	135.00	.45000	565.00	.77-1-01	.9371-01	.1047	.59 .67	.4 .625	.4216	.561.7
28	135.00	.50000	566.00	.1034	.1251	.1397	.59 .62	.5 .167	.4221	.562.4
28	135.00	.55000	567.00	.1165	.1409	.1573	.59 .68	.6 .953	.4216	.561.6
28	135.00	.60000	568.00	.7724-01	.9332-01	.1042	.59 .90	.4 .627	.4195	.558.8

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ARC 3.5-178 1H3

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(REIT04)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 1H3 Q+T+S (TRIPS) EXTERNAL TANK			W/H/HT	TW DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85			
28	135.00	.65000	569.00	.6763-01	.8175-01	.9127-01	59.76	4.042	.9982-03
28	135.00	.70000	570.00	.7439-01	.8982-01	.1003	59.85	4.449	.1097-02
28	135.00	.75000	571.00	.5830-01	.7045-01	.7865-01	59.82	3.487	.8603-03
28	135.00	.80000	572.00	.5117-01	.6186-01	.6907-01	59.74	3.057	.7553-03
28	135.00	.85000	573.00	.7488-01	.9047-01	.1010	59.87	4.433	.1105-02
28	135.00	.90000	574.00	.6566-01	.7935-01	.8858-01	59.82	3.928	.9689-03
28	135.00	.93500	575.00	.2296-	.2773	.3095	59.99	13.78	.3387-02
28	151.00	.5676-01	.7701-01	.8604-01	.59.47	3.785	.4235	564.2	.9403-03
28	157.00	.40000	577.00	.1025-	.1240	.1385	59.55	6.174	.1514-02
28	157.00	.42500	45000	.578.00	.1705	.2061	.2301	59.83	.2517-02
28	157.00	.47500	579.00	.1385-	.1674	.1868	.59.92	10.21	.4202
28	157.00	.50000	580.00	.9212-01	.1112	.1240	60.17	5.543	.4169
28	157.00	.55000	581.00	.6197-01	.7480-01	.8343-01	60.19	3.730	.4168
28	157.00	.60000	582.00	.4219-01	.5059-01	.5683-01	60.09	2.535	.4178
28	157.00	.55000	583.00	.4995-01	.6033-01	.6732-01	59.99	2.997	.4186
28	157.00	.70000	584.00	.4519-01	.5457-01	.6089-01	60.01	2.712	.4186
28	157.00	.75000	585.00	.4002-01	.4832-01	.5392-01	60.02	2.402	.4183
28	157.00	.80000	586.00	.2418-01	.2921-01	.3260-01	59.94	1.450	.4192
28	157.00	.85000	587.00	.3160-01	.4170-01	.4664-01	60.00	2.076	.4186
28	157.00	.90000	588.00	.5174-01	.6249-01	.6974-01	59.98	3.103	.4188
28	161.00	.42500	589.00	.1005-	.1215	.1357	59.55	5.982	.4228
27	165.00	.40000	593.00	.5028-01	.6115-01	.6855-01	57.95	2.914	.4371
28	165.00	.50000	590.00	.8364-01	.1010	.1127	59.99	5.018	.4186
27	165.00	.70000	591.00	.7208-01	.8723-01	.9748-01	59.31	4.275	.4243
27	165.00	.90000	592.00	.6826-01	.8265-01	.9244-01	58.91	4.017	.4280
27	190.02	.00000	594.00	.6298-	.7721	.8704	55.79	35.13	.4575
27	180.00	.50000-02	595.00	.5784	.7070	.7953	56.59	32.73	.4499
27	180.00	.10000-01	596.00	.5682	.6926	.7778	57.27	32.54	.4434
27	180.00	.40000-01	597.00	.3071	.3736	.4191	57.77	17.74	.4387
27	180.00	.80000-01	598.00	.2583	.3143	.3524	57.80	14.93	.4385
27	180.00	.52000-02	600.00	.9615-01	.1117	.1312	57.82	5.558	.3882
27	180.00	.20000	600.00	.4862-01	.5895-01	.6556-01	58.75	2.856	.4295
27	180.00	.25000	601.00	.3410-01	.4132-01	.4620-01	58.99	2.012	.4272
27	180.00	.30000	602.00	.3351-01	.4075-01	.4566-01	58.21	1.953	.4345
27	180.00	.35000	603.00	.3552-01	.4349-01	.4873-01	58.19	2.083	.4347
27	180.00	.40000	604.00	.4463-01	.5633-01	.6124-01	59.01	2.607	.4365
27	180.00	.45000	605.00	.4527-01	.5555-01	.6173-01	57.91	2.622	.4374
27	180.00	.50000	606.00	.1316	.1601	.1753	57.80	7.607	.4384
27	180.00	.55000	607.00	.3263	.3952	.4475	57.94	19.02	.4372
27	180.00	.60000	608.00	.7083-01	.8610-01	.9650-01	58.03	4.110	.4362
27	180.00	.65000	609.00	.1505-	.1829	.2049	58.09	8.741	.4357
27	160.30	.52500	610.00	.9822-01	.1171	.1537	58.14	5.710	.4363
27	180.00	.55000	611.00	.7172-01	.8715-01	.9766-01	58.14	4.170	.4352

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ARC 3.5-178 IH3

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(RE1104)

RUN NUMBER	FHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	ARC 3.5-178 IH3 0+1+S (TRIPS)	EXTERNAL TANK	QDOT BTU/F 12SEC	QREF BTU/F 12SEC	W/H/HT	TW DFG. R	STN NO R=0.9
27	180.00	.57500	612.00	.8637-01	.1050	.1176	.58.15	5.022	4.752	.578.7	.1278-02	.1343-02
27	180.00	.60000	613.00	.9065-01	.1102	.1235	.58.39	5.269	4.357	.579.3	.1330-02	.1165-02
27	180.00	.62500	614.00	.8997-01	.1092	.1224	.58.11	5.222	4.355	.579.1	.1159-02	.1159-02
27	180.00	.65000	615.00	.7870-01	.9564-01	.1072	.58.12	4.574	4.354	.579.0	.153-02	.153-02
27	180.00	.67500	616.00	.7833-01	.9515-01	.1066	.58.24	4.562	4.343	.577.4	.1288-02	.1288-02
27	180.00	.70000	617.00	.7803-01	.9463-01	.1059	.58.71	4.582	4.299	.571.6	.7021-03	.7021-03
27	180.00	.75000	619.00	.6292-01	.7628-01	.8533-01	.58.82	3.701	4.268	.579.0	.9294-03	.9294-03
27	180.00	.80000	619.00	.5274-01	.6410-01	.7183-01	.58.12	3.066	4.354	.579.1	.7607-03	.7607-03
27	180.00	.85000	620.00	.4743-01	.5764-01	.6460-01	.58.09	2.755	4.357	.579.4	.1248-02	.1248-02
27	180.00	.90000	621.00	.8708-01	.1058	.1105	.58.32	5.078	4.330	.576.5	.2148-02	.2148-02
27	180.00	.93700	622.00	.1453-	.1763	.1974	.58.53	8.503	7.336	.573.9	.2833-03	.2833-03
27	180.00	.97500	623.00	.1921-01	.2325-01	.2597-01	.59.35	4.229	563.6	.572.8	.2953-02	.2953-02
27	194.00	.890000-01	624.00	.1998	.2424	.2713	.58.61	11.71	4.308	.572.8	.1142-02	.1142-02
27	195.00	.15000	625.00	.7730-01	.9368-01	.1048	.58.92	4.554	4.279	.569.0	.3877-03	.3877-03
27	196.00	.32000	626.00	.2628-01	.3181-01	.3555-01	.59.23	1.556	4.250	.565.1	.5721-03	.5721-03
27	196.00	.50000	627.00	.1194	.1447	.1618	.58.97	7.044	4.274	.568.3	.4944-03	.4944-03
27	196.00	.70000	628.00	.7114-01	.8602-01	.9620-01	.59.32	4.220	4.241	.563.9	.1049-02	.1049-02
27	197.00	.90000	629.00	.6322-01	.7658-01	.8563-01	.59.33	3.732	4.269	.567.6	.9333-03	.9333-03
27	208.00	.40100	630.00	.9099-01	.1102	.1232	.53.03	5.371	4.269	.567.6	.1343-02	.1343-02
27	208.00	.60000	631.00	.3885-01	.4696-01	.5243-01	.53.66	2.317	4.210	.559.8	.5721-03	.5721-03
27	208.00	.80000	632.00	.3355-01	.4056-01	.4528-01	.59.68	2.003	4.207	.559.4	.4640-03	.4640-03
27	208.00	.93700	633.00	.3148-01	.3807-01	.4251-01	.59.56	1.875	4.219	.561.0	.2305-02	.2305-02
27	208.00	.93700	634.00	.1563-	.1891	.2113	.59.42	9.290	4.232	.562.7	.8674-03	.8674-03
27	216.00	.40100	635.00	.5889-01	.7115-01	.7944-01	.59.69	3.515	4.206	.559.3	.1198-02	.1198-02
27	216.00	.50000	635.00	.8133-01	.9826-01	.1097	.59.83	4.866	4.194	.557.6	.8314-03	.8314-03
27	216.00	.70000	637.00	.5650-01	.6819-01	.7605-01	.60.14	3.398	4.165	.553.8	.7982-03	.7982-03
27	222.50	.33500	639.00	.5403-01	.6551-01	.7329-01	.58.80	3.177	4.290	.570.5	.2572-02	.2572-02
27	224.00	.40000	640.00	.1744	.2110	.2358	.59.34	10.35	4.239	.563.7	.6533-03	.6533-03
27	229.00	.50000	641.00	.4429-01	.5360-01	.5990-01	.59.28	2.625	4.246	.564.5	.5586-03	.5586-03
27	229.00	.80000	641.00	.2785-01	.4583-01	.5124-01	.59.10	2.237	4.262	.566.7		

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ARC 3.5-178 IH3

EXTERNAL TANK

ARC 3.5-178 IH3 O+T+S

EXTERNAL TANK

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(REFITOS)

RN/L = 5.000 BETA = -5.000 ALPHA = .0000 ELEVON = .0000

PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LB	RS FT	RHOEL SLUG/FT SEC	ALPHA DEG.
34	5.300	.4986+07	405.2	1303.	318.2	.1750-01	.8229	.0000
35	5.300	.5075+07	405.7	1289.	314.8	.1750-01	.8290	.0000
36	5.300	.5031+07	406.1	1297.	316.8	.1750-01	.8269	.0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	POF R=0.85	QRF BTU/FT SEC	QDT BTU/FT SEC	TH/W
36	.00000	.40000-01	501.00	.1633	.1993	.2241	.56.45	.4474
36	.00000	.80000-01	502.00	.2386	.2911	.3270	.56.67	.4453
36	.00000	.15000	503.00	.9034-01	.1101	.1236	.56.89	.4432
36	.00000	.40000	504.00	.3898-01	.4728-01	.5301-01	.57.49	.4375
36	.00000	.60000	505.00	.5057-01	.6146-01	.6888-01	.57.68	.4357
36	.00000	.80000	506.00	.4130-01	.5022-01	.5631-01	.57.50	.4374
36	.45.000	.40000	507.00	.8317-01	.1012	.1135	.57.44	.4380
36	.45.000	.50000	508.00	.5290-01	.6434-01	.7214-01	.57.48	.4376
36	.45.000	.60000	509.00	.4413-01	.5369-01	.6022-01	.57.38	.4385
36	.45.000	.70000	510.00	.4232-01	.5151-01	.5779-01	.57.27	.424
36	.45.000	.80000	511.00	.3917-01	.4769-01	.5351-01	.57.19	.420
36	.45.000	.90000	512.00	.3523-01	.4287-01	.4808-01	.57.35	.021
36	.67.500	.30000	513.00	.5851-01	.7132-01	.8009-01	.56.86	.328
36	.67.500	.35000	514.00	.2394	.2917	.3274	.57.02	.13.65
36	.67.500	.40000	515.00	.7528-01	.9165-01	.1028	.57.20	.306
35	.67.500	.50000	516.00	.3430-01	.4177-01	.4687-01	.56.72	.945
35	.67.500	.50000	517.00	.3010-01	.3665-01	.4113-01	.56.73	.707
35	.67.500	.65000	518.00	.3426-01	.4173-01	.4683-01	.56.66	.941
35	.67.500	.70000	519.00	.4372-01	.5323-01	.5971-01	.56.62	.484
35	.67.500	.75000	520.00	.4145-01	.5045-01	.5559-01	.56.89	.358
35	.67.500	.80000	521.00	.4285-01	.5217-01	.5854-01	.56.76	.432
35	.67.500	.90000	522.00	.6488-01	.7896-01	.6857-01	.56.91	.693
35	.90.000	.20000	523.00	.4848-01	.5906-01	.6630-01	.56.63	.745
35	.90.000	.25000	524.00	.3891-01	.4739-01	.5319-01	.56.66	.204
35	.90.000	.27500	525.00	.3983-01	.4861-01	.5464-01	.56.14	.236

\*\*\*TEST DATA\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF	H/HREF	POF	QRF	QDT	TH DEG. R	STN NO R=0.9
36	.00000	.40000-01	501.00	.1633	.1993	.2241	.56.45	.4474	.590.0
36	.00000	.80000-01	502.00	.2386	.2911	.3270	.56.67	.4453	.588.0
36	.00000	.15000	503.00	.9034-01	.1101	.1236	.56.89	.4432	.585.2
36	.00000	.40000	504.00	.3898-01	.4728-01	.5301-01	.57.49	.235	.1335-02
36	.00000	.60000	505.00	.5057-01	.6146-01	.6888-01	.57.68	.917	.5733-03
36	.00000	.80000	506.00	.4130-01	.5022-01	.5631-01	.57.50	.375	.7451-03
36	.45.000	.40000	507.00	.8317-01	.1012	.1135	.57.44	.757.3	.6090-03
36	.45.000	.50000	508.00	.5290-01	.6434-01	.7214-01	.57.48	.577.6	.1227-02
36	.45.000	.60000	509.00	.4413-01	.5369-01	.6022-01	.57.38	.577.9	.7801-03
36	.45.000	.70000	510.00	.4232-01	.5151-01	.5779-01	.57.27	.532	.6510-03
36	.45.000	.80000	511.00	.3917-01	.4769-01	.5351-01	.57.19	.424	.6246-03
36	.45.000	.90000	512.00	.3523-01	.4287-01	.4808-01	.57.35	.420	.5782-03
36	.67.500	.30000	513.00	.5851-01	.7132-01	.8009-01	.56.86	.4388	.5198-03
36	.67.500	.35000	514.00	.2394	.2917	.3274	.57.02	.4333	.579.5
36	.67.500	.40000	515.00	.7528-01	.9165-01	.1028	.57.27	.4385	.579.2
35	.67.500	.50000	516.00	.3430-01	.4177-01	.4687-01	.56.72	.4386	.580.5
35	.67.500	.50000	517.00	.3010-01	.3665-01	.4113-01	.56.73	.4404	.581.6
35	.67.500	.65000	518.00	.3426-01	.4173-01	.4683-01	.56.66	.204	.5198-03
35	.67.500	.70000	519.00	.4372-01	.5323-01	.5971-01	.56.62	.4415	.579.5
35	.67.500	.75000	520.00	.4145-01	.5045-01	.5559-01	.56.89	.4333	.583.6
35	.67.500	.80000	521.00	.4285-01	.5217-01	.5854-01	.56.76	.4403	.583.6
35	.67.500	.90000	522.00	.6488-01	.7896-01	.6857-01	.56.91	.4409	.578.4
35	.90.000	.20000	523.00	.4848-01	.5906-01	.6630-01	.56.63	.4408	.4429-03
35	.90.000	.25000	524.00	.3891-01	.4739-01	.5319-01	.56.66	.4415	.5041-03
35	.90.000	.27500	525.00	.3983-01	.4861-01	.5464-01	.56.14	.4465	.6431-03

## (REFROS)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 1H3 O+T+S		EXTERNAL TANK	H4/H5	DEO. R	TH	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9					
35	90.000	.30000	526.00	.1419	.1734	.1950	55.90	7.933	.4487	.2094-02
35	90.000	.32500	527.00	.3392	.4146	.4665	55.76	18.92	.4490	.5007-02
35	90.000	.35000	528.00	.3351	.4088	.4592	56.31	18.87	.4448	.4938-02
35	90.000	.40000	529.00	.8162-01	.9949-01	.1117	56.45	4.607	.4434	.1202-02
35	90.000	.45000	530.00	.4638-01	.5652-01	.6345-01	56.56	2.623	.4424	.6828-03
35	90.000	.50000	531.00	.2879-01	.3508-01	.3937-01	56.61	1.630	.4419	.4237-03
35	90.000	.55000	532.00	.2163-01	.2635-01	.2957-01	56.65	1.225	.4415	.3183-03
35	90.000	.60000	533.00	.3361-01	.4095-01	.4596-01	56.61	1.903	.4419	.4947-03
35	90.000	.65000	534.00	.6078-01	.7407-01	.8316-01	56.55	3.437	.4426	.8948-03
35	90.000	.70000	535.00	.5610-01	.6832-01	.7667-01	56.73	3.182	.4408	.8254-03
35	90.000	.75000	536.00	.7071-01	.8610-01	.9661-01	56.77	4.014	.4404	.577.9
35	90.000	.80000	537.00	.7541-01	.9115-01	.1031	56.66	4.272	.4415	.579.2
35	90.000	.85000	538.00	.7832-01	.9537-01	.1070	56.74	4.444	.4407	.578.2
35	90.000	.90000	539.00	.6557-01	.8101-01	.9082-01	56.90	3.787	.4392	.576.2
35	90.000	.95000	540.00	.3040-01	.3705-01	.4160-01	56.52	1.718	.4428	.581.0
35	90.000	.112.50	541.00	.3194-01	.3893-01	.4372-01	56.49	1.804	.4431	.4703-03
35	90.000	.125.00	542.00	.1222	.1469	.1672	56.52	6.905	.4428	.581.0
35	90.000	.137.50	543.00	.2464	.3002	.3370	56.59	1.34	.4422	.3627-02
35	90.000	.150.00	544.00	.6589-01	.8025-01	.9007-01	56.67	3.734	.4413	.9695-03
35	90.000	.162.50	545.00	.4385-01	.5342-01	.5995-01	56.66	2.485	.4414	.6453-03
35	90.000	.175.00	546.00	.3642-01	.4437-01	.4981-01	56.62	2.062	.4419	.579.7
35	90.000	.187.50	547.00	.3634-01	.4696-01	.5271-01	56.60	2.181	.4421	.5673-03
35	90.000	.200.00	548.00	.3628-01	.4420-01	.4962-01	56.62	2.051	.4418	.580.0
35	90.000	.212.50	549.00	.2494-01	.3040-01	.34.3-01	56.49	1.409	.4431	.5349-03
35	90.000	.225.00	550.00	.5620-01	.6843-01	.7679-01	56.75	3.189	.4406	.3672-03
35	90.000	.237.50	551.00	.1508	.1592	.1981-01	56.69	7.142	.4425	.8268-03
35	90.000	.250.00	552.00	.1069	.1301	.1662	56.62	6.027	.4435	.578.1
35	90.000	.262.50	553.00	.9299-01	.1134	.1273	56.44	5.216	.4426	.1576-02
35	90.000	.275.00	554.00	.1070	.1304	.1465	56.46	6.041	.4434	.1576-02
35	90.000	.287.50	555.00	.1215	.1482	.1364	56.55	6.880	.4425	.1576-02
35	90.000	.300.00	556.00	.6215-01	.7567-01	.6491-01	56.79	3.530	.4402	.579.5
35	90.000	.312.50	557.00	.7536-01	.9181-01	.1021	56.61	4.266	.4420	.1101-02
35	90.000	.325.00	558.00	.1286	.1567	.1759	56.59	7.277	.4421	.1893-02
35	90.000	.337.50	559.00	.1839	.2241	.2516	56.56	10.410	.4424	.2708-02
35	90.000	.350.00	560.00	.1276	.1555	.1745	56.66	7.231	.4415	.579.2
35	90.000	.362.50	561.00	.3536-01	.6446-01	.7573-01	56.55	3.131	.4425	.8149-03
35	90.000	.375.00	562.00	.6.04-01	.8045-01	.9031-1	56.62	3.739	.4418	.919-03
35	90.000	.387.50	563.00	.6517-01	.7938-01	.8910-01	56.66	3.692	.4415	.95f-03
35	90.000	.400.00	564.00	.9594-01	.1168	.1311	56.68	5.438	.4412	.1412-02
35	90.000	.412.50	565.00	.6784-01	.8265-01	.9277-01	56.63	3.342	.4418	.578.9
35	90.000	.425.00	566.00	.557.00	.6328-01	.7711-01	56.58	3.580	.4422	.9985-03
35	90.000	.437.50	567.00	.7061-01	.8603-01	.9657-01	56.62	3.998	.4419	.9315-03
35	90.000	.450.00	568.00	.1072	.1314	.1474	56.84	6.135	.4419	.576.9

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ARC 3.5-178 IH3

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(REF 105)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 O+T+S		EXTERNAL TANK	QDOT BTU/F12SEC	H/H REF R=0.9	H/H REF R=0.85	QREF BTU/F12SEC	HT/HT	TW DEG. R	STN NO R=0.9
				H/H REF R=1.0	H/H REF R=0.9								
35	135.00	.65000	569.00	.1033	.1259	.1413	.56.65	.4415	.4400	.579.2	.1521-02		
35	135.00	.70000	570.00	.8254-01	.1005	.1127	.56.81	.4689	.4400	.577.3	.1214-02		
35	135.00	.75000	571.00	.6702-01	.8160-01	.9156-01	.56.77	.3805	.4404	.577.8	.9859-03		
35	135.00	.80000	572.00	.6515-01	.7940-01	.8915-01	.56.51	.3802	.4429	.591.0	.9592-03		
35	135.00	.85000	573.00	.9832-01	.076	.1207	.56.65	.503	.4415	.579.3	.1300-02		
35	135.00	.90000	574.00	.1385	.1687	.1894	.56.58	.7837	.4422	.580.1	.2039-02		
35	151.00	.93500	575.00	.3273	.3983	.4467	.56.93	.18.63	.4389	.575.8	.4812-02		
35	157.00	.40000	576.00	.5400-01	.6583-01	.7394-01	.56.41	.3046	.4439	.582.4	.7953-03		
35	157.00	.42500	577.00	.7909-01	.9641-01	.1083	.56.48	.467	.4432	.581.4	.1165-02		
35	157.00	.45000	578.00	.1225	.1492	.1674	.56.78	.6957	.4403	.577.6	.1802-02		
35	157.00	.47500	579.00	.1789	.2177	.2612	.56.94	.10.19	.4388	.575.7	.2631-02		
35	157.00	.50000	580.00	.1962	.2393	.2682	.57.26	.11.26	.4363	.572.5	.2892-02		
35	157.00	.55000	581.00	.7920-01	.9628-01	.1079	.57.21	.4531	.4362	.572.3	.1163-02		
35	157.00	.60000	582.00	.7044-01	.8967-01	.9606-01	.57.09	.4021	.4374	.573.9	.1035-02		
35	157.00	.65700	583.00	.6238-01	.7590-01	.8512-01	.56.97	.3554	.4385	.575.3	.9171-03		
35	157.00	.70000	584.00	.6216-01	.6344-01	.7113-01	.57.06	.2976	.4377	.574.2	.7666-03		
35	157.00	.75000	585.00	.4968-01	.6067-01	.6803-01	.57.03	.2844	.4379	.574.5	.7331-03		
35	157.00	.80000	586.00	.3797-01	.4622-01	.5185-01	.56.86	.2159	.4396	.576.7	.5584-03		
35	157.00	.85000	587.00	.3926-01	.4778-01	.5359-01	.56.93	.235	.4389	.575.8	.5773-03		
35	157.00	.90000	588.00	.1267	.1542	.1730	.56.87	.7205	.4394	.576.5	.1863-02		
35	161.00	.42500	589.00	.1111	.1354	.1521	.56.47	.6273	.4433	.581.6	.1635-02		
34	165.00	.40000	593.00	.5156-01	.6298-01	.7063-01	.56.34	.2336	.4446	.589.7	.7651-03		
35	165.00	.50000	590.00	.8642-01	.1051	.1179	.56.97	.4924	.4385	.575.2	.1270-02		
34	165.00	.65170	591.00	.5373-01	.6517-01	.7294-01	.58.42	.2139	.4306	.571.1	.7936-03		
34	165.00	.70000	592.00	.7181-01	.8722-01	.9770-01	.58.07	.4170	.4339	.575.5	.1062-02		
34	180.00	.00010	594.00	.937	.7304	.8254	.54.72	.32.49	.4656	.617.6	.8877-02		
34	180.00	.50000-02	595.00	.5184	.6357	.7167	.55.55	.28.80	.4578	.607.2	.7729-02		
34	190.00	.10000-01	596.00	.5754	.6298-01	.7916	.56.29	.32.39	.4508	.597.9	.8557-02		
34	190.00	.40000-01	597.00	.3734	.4557	.5120	.56.82	.21.22	.4458	.591.3	.5544-02		
34	190.00	.80000-01	598.00	.2541	.3101	.3484	.56.82	.14.44	.4457	.591.2	.3773-02		
34	190.00	.15000	599.00	.8855-01	.1080	.1214	.56.86	.5035	.4454	.590.7	.1344-02		
34	190.00	.20000	600.00	.4711-01	.5727-01	.6420-01	.57.61	.2723	.4364	.578.8	.6972-03		
34	190.00	.25000	601.00	.3527-01	.4284-01	.4799-01	.58.05	.2048	.4341	.575.8	.5216-03		
34	190.00	.30000	602.00	.3633-01	.4425-01	.4967-01	.57.27	.2080	.4415	.585.6	.5385-03		
34	190.00	.35000	603.00	.3646-01	.4434-01	.4977-01	.57.25	.2084	.4416	.585.8	.5395-03		
34	190.00	.40000	604.00	.4682-01	.5708-01	.6410-01	.57.04	.2671	.4437	.588.5	.6946-03		
34	190.00	.42500	605.00	.4916-01	.5996-01	.6737-01	.56.90	.2797	.4450	.590.2	.7295-03		
34	190.00	.45000	606.00	.1339	.1635	.1837	.56.74	.7.598	.4465	.592.3	.1989-02		
34	180.00	.45000	607.00	.3530	.4305	.4836	.56.92	.20.09	.4448	.589.9	.5238-02		
34	180.00	.47500	608.00	.1252	.1527	.1714	.57.06	.7.145	.4435	.588.2	.1858-02		
34	180.00	.50000	609.00	.6453-01	.7863-01	.6827-01	.57.19	.3.630	.4424	.586.7	.9569-03		
34	180.00	.52500	610.00	.1038	.1264	.1419	.57.27	.5.943	.4414	.585.5	.1538-02		
34	180.00	.55000	611.00	.1027	.1251	.1404	.57.31			.588.0	.1523-02		

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ARC 3.5-178 IH3

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(REFIT05)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 0+1-S		EXTERNAL TANK	H/HF	QHET BTU/ FT2SEC	QDOT BTU/ FT2SEC	TH	DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9							
34	180.00	.57500	612.00	.9979-01	.1215	.1363	.57.42	5.729	.4401	583.7	.1478-02	
34	180.00	.60000	613.00	.8889-01	.1073	.1204	.57.39	5.055	.4404	584.2	.1305-02	
34	180.00	.62500	614.00	.8210-01	.9995-01	.9816-01	.57.42	4.714	.4400	583.6	.1216-02	
34	180.00	.65000	615.00	.7185-01	.8748-01	.9000-01	.57.39	4.123	.4404	584.1	.1065-02	
34	180.00	.67500	616.00	.7724-01	.9400-01	.1054	.57.49	4.441	.4394	582.7	.1144-02	
34	180.00	.70000	617.00	.7573-01	.9209-01	.1032	.57.91	4.388	.4354	577.5	.1121-02	
34	180.00	.75000	618.00	.6157-01	.7480-01	.8380-01	.58.01	3.572	.4345	576.3	.9106-03	
34	180.0	.80000	619.00	.5463-01	.6657-01	.7469-01	.57.43	3.140	.4400	583.6	.8102-03	
34	180.0	.85000	620.00	.5413-01	.6590-01	.7394-01	.57.41	3.108	.4402	583.8	.8021-03	
34	180.00	.90000	621.00	.1228	.1495	.1677	.57.47	7.057	.4396	583.0	.1819-02	
34	180.00	.93700	622.00	.1812	.2205	.2473	.57.50	10.42	.4393	582.7	.2684-02	
34	180.00	.97500	623.00	.2118-01	.2570-01	.2877-01	.58.32	1.235	.4316	572.4	.3129-03	
34	180.00	.80000-01	624.00	.2277	.2770	.3105	.57.69	13.14	.4375	580.2	.3372-02	
34	194.00	.15000	625.00	.7454-01	.9055-01	.1014	.58.02	4.325	.4344	576.2	.1102-02	
34	195.00	.30000	626.00	.2483-01	.3013-01	.3374-01	.58.30	1.448	.4318	572.7	.3669-03	
34	196.00	.50000	627.00	.1079	.1311	.1469	.57.99	6.258	.4346	576.5	.1596-02	
34	196.00	.70000	628.00	.6156-01	.7481-01	.8374-01	.58.37	3.599	.4311	571.8	.9110-03	
34	197.00	.90000	629.00	.7509-01	.9120-01	.1022	.58.07	4.360	.4340	575.6	.1110-02	
34	208.00	.15000	631.00	.6951-01	.8447-01	.9466-01	.57.90	1.025	.4355	577.6	.1028-02	
34	208.00	.40000	632.00	.4928-01	.5970-01	.6677-01	.58.76	2.896	.4274	566.9	.7272-03	
34	208.00	.60000	633.00	.2672-01	.3238-01	.3621-01	.58.78	1.571	.4273	566.7	.3943-03	
34	208.00	.80000	634.00	.2671-01	.3238-01	.3621-01	.58.68	1.567	.4282	567.9	.3943-03	
34	208.00	.93700	635.00	.6617-01	.8026-01	.8883-01	.58.42	3.865	.4306	571.1	.9774-03	
34	216.00	.40000	635.00	.7635-01	.9257-01	.1036	.58.56	4.471	.4293	569.4	.1127-02	
34	216.00	.50000	636.00	.6562-01	.7949-01	.8889-01	.58.81	3.859	.4269	566.2	.9682-03	
34	216.00	.70000	637.00	.3056-01	.3699-01	.4133-01	.59.09	1.806	.4243	562.7	.4505-03	
34	222.50	.33500	638.00	.6359-01	.7733-01	.8670-01	.57.72	3.670	.4373	579.9	.9414-03	
34	229.00	.40000	639.00	.1232	.1495	.1674	.58.24	7.173	.4323	573.4	.1820-02	
34	229.00	.60000	640.00	.5104-01	.6193-01	.6933-01	.58.36	2.979	.4312	571.9	.7541-03	
34	229.00	.80000	641.00	.3404-01	.4131-01	.4624-01	.58.32	1.985	.4316	572.4	.5030-03	

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ARC 3.5-178 1H3

## EXTERNAL TANK

ARC 3.5-178 1H3

EXTERNAL TANK

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(REIT10)

RN/L = 1.500    BETA = .0000    ALPHA = .0000    ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOVEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
56	5.300	.1513+07	121.6	1294.	315.9	.1750-01	.2480	.0000
57	5.300	.1503+07	121.6	1299.	317.2	.1750-01	.2474	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT <sup>2</sup> SEC	QDOT BTU/FT <sup>2</sup> SEC	HW/HT	TH DEG. R	HW/HT	TH DEG. R	STN NO R=0.9
56	.00000	.40000-01	501.00	.1440	.1752	.1966	.31.24	.4.497	.4.396	.578.7	.3875-02	
56	.00000	.80000-01	502.00	.8677-01	.1055	.1183	.31.36	.2.721	.4.374	.575.8	.2334-02	
56	.00000	.15000	503.00	.3189-01	.3873-01	.4339-01	.31.55	.1.006	.4.341	.571.5	.8569-03	
56	.00000	.40000	504.00	.9844-02	.1192-01	.1332-01	.32.05	.31.55	.4.254	.560.0	.2638-03	
56	.00000	.60000	505.00	.7751-02	.9373-02	.1047-01	.25	.2499	.4.220	.555.6	.2075-03	
56	.00000	.80000	506.00	.7219-02	.8726-02	.9743-02	.32.31	.2333	.4.209	.554.1	.1932-03	
56	.00000	.40000	507.00	.9091-02	.1100-01	.1230-01	.32.08	.2916	.4.250	.559.5	.2436-03	
56	.00000	.50000	508.00	.8457-02	.1023-01	.1142-01	.32.23	.2726	.4.222	.555.8	.2264-03	
56	.00000	.60000	509.00	.7854-02	.9495-02	.1060-01	.32.29	.2536	.4.213	.554.6	.2102-03	
56	.00000	.70000	510.00	.6991-02	.8444-02	.9424-02	.32.43	.2267	.4.189	.551.3	.1870-03	
56	.00000	.80000	511.00	.6068-02	.7357-02	.8214-02	.32.34	.1969	.4.204	.553.4	.1629-03	
56	.00000	.90000	512.00	.6578-02	.7948-02	.8872-02	.32.37	.2130	.4.198	.552.7	.1760-03	
56	.00000	.30000	513.00	.9628-02	.1166-01	.1303-01	.32.02	.3083	.4.260	.560.8	.2581-03	
56	.00000	.35000	514.00	.9122-32	.1104-01	.1235-01	.32.04	.2923	.4.255	.560.2	.2445-03	
56	.00000	.40000	515.00	.9299-02	.1138-01	.1271-01	.32.11	.3013	.4.244	.558.7	.2518-03	
56	.00000	.50000	516.00	.8071-02	.9762-02	.1090-01	.32.21	.2600	.4.226	.556.3	.2161-03	
56	.00000	.60000	517.00	.7288-02	.8812-02	.9340-02	.32.27	.2352	.4.215	.554.9	.1951-03	
56	.00000	.65000	518.00	.7144-02	.8610-02	.9650-02	.32.23	.2302	.4.224	.556.0	.1913-03	
56	.00000	.67.500	519.00	.6692-02	.8084-02	.9022-02	.32.40	.2168	.4.193	.552.0	.1790-03	
56	.00000	.75000	520.00	.6408-02	.7739-02	.8637-02	.32.44	.2079	.4.187	.551.2	.1714-03	
56	.00000	.80000	521.00	.6697-02	.8084-02	.9027-02	.32.28	.2159	.4.214	.554.7	.1790-03	
56	.00000	.90000	522.00	.1105-01	.1335-01	.1491-01	.32.30	.3569	.4.210	.554.3	.2956-03	
56	.00000	.20000	523.00	.1688-01	.2043-01	.2283-01	.32.14	.5426	.4.240	.558.1	.4522-03	
56	.00000	.25000	524.00	.9934-02	.1201-01	.1341-01	.32.30	.3209	.4.211	.554.3	.2659-03	
56	.00000	.27500	525.00	.9308-02	.1126-01	.1259-01	.32.11	.2989	.4.244	.558.7	.2493-03	
56	.00000	.30000	526.00	.8730-02	.1057-01	.1181-01	.32.06	.2799	.4.252	.559.8	.2339-03	

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ARC 3.5-178 1H3

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(REITION)

RUN NUMBER	PH:	X/L	T,C,I,O	ARC 3.5-178 1H3 ET			EXTERNAL TANK			TW DEG. R			STN NO R=0.9		
				H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QDOT BTU/ FT2SEC	QREF BTU/ FT2SEC	HH/HT	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HH/HT	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HH/HT
55	50.000	52500	527.00	.8844-02	.1075-01	.1202-01	.32.08	.2850	.4249	.4273	.4244	.558.7	.4238	.558.3	.2380-03
56	50.000	528.00	.8606-02	.1042-01	.1164-01	.32.11	.2763	.2465	.4238	.4230	.4230	.558.0	.4230	.556.8	.2305-03
56	50.000	529.00	.7663-02	.9280-02	.1037-01	.32.14	.2465	.2800	.4230	.4230	.4230	.556.8	.4230	.556.9	.2054-03
56	50.000	530.00	.8699-02	.1052-01	.1175-01	.32.19	.2800	.2870	.4230	.4230	.4230	.556.9	.4230	.556.2	.2329-03
56	50.000	531.00	.8915-02	.1078-01	.1205-01	.32.19	.2805	.3005	.4225	.4225	.4225	.556.2	.4225	.556.2	.2387-03
56	50.000	532.00	.9325-02	.1128-01	.1260-01	.32.22	.3005	.3202	.4230	.4230	.4230	.556.8	.4230	.556.8	.2497-03
56	50.000	533.00	.9948-02	.1203-01	.1344-01	.32.19	.32.19	.4416	.4231	.4231	.4231	.557.0	.4231	.557.0	.3674-03
56	50.000	534.00	.1372-01	.1660-01	.1854-01	.32.18	.32.38	.5815	.4198	.4198	.4198	.552.6	.4198	.552.6	.4805-03
56	50.000	535.00	.1796-01	.2170-01	.2422-01	.32.40	.4193	.4193	.4193	.4193	.4193	.551.9	.4193	.551.9	.6170-03
56	50.000	536.00	.2307-01	.2787-01	.3110-01	.32.40	.4747	.4747	.4747	.4747	.4747	.551.9	.4747	.551.9	.6170-03
56	50.000	537.00	.2693-01	.3256-01	.3637-01	.32.25	.6885	.6885	.6885	.6885	.6885	.555.5	.6885	.555.5	.7209-03
56	50.000	538.00	.3118-01	.3770-01	.4211-01	.32.24	.1.005	.4220	.4220	.4220	.4220	.555.6	.4220	.555.6	.8347-03
56	50.000	539.00	.3358-01	.4060-01	.4534-01	.32.25	.1.083	.4219	.4219	.4219	.4219	.555.3	.4219	.555.3	.8988-03
56	50.000	540.00	.1491-01	.1634-01	.2016-01	.32.10	.4786	.4786	.4786	.4786	.4786	.558.9	.4786	.558.9	.3994-03
56	50.000	541.00	.1502-01	.1818-01	.2032-01	.32.07	.4816	.4816	.4816	.4816	.4816	.559.5	.4816	.559.5	.4023-03
56	50.000	542.00	.1694-01	.2050-01	.2292-01	.32.06	.5430	.5430	.5430	.5430	.5430	.559.7	.5430	.559.7	.4538-03
56	50.000	543.00	.1962-01	.2375-01	.2654-01	.32.06	.6288	.6288	.6288	.6288	.6288	.559.9	.6288	.559.9	.5256-03
56	50.000	544.00	.2562-01	.3102-01	.3467-01	.32.07	.8217	.8217	.8217	.8217	.8217	.559.6	.8217	.559.6	.6866-03
56	50.000	545.00	.3268-01	.3956-01	.4421-01	.32.08	.1.049	.4249	.4249	.4249	.4249	.559.3	.4249	.559.3	.8756-03
56	50.000	546.00	.3551-01	.4299-01	.4804-01	.32.08	.1.139	.4249	.4249	.4249	.4249	.559.4	.4249	.559.4	.9515-03
56	50.000	547.00	.3743-01	.4530-01	.5063-01	.32.10	.1.201	.4246	.4246	.4246	.4246	.558.9	.4246	.558.9	.1003-02
56	50.000	548.00	.3325-01	.4024-01	.4496-01	.32.11	.1.058	.4244	.4244	.4244	.4244	.558.7	.4244	.558.7	.8907-03
56	50.000	549.00	.3402-01	.4117-01	.4600-01	.32.12	.1.093	.4242	.4242	.4242	.4242	.558.4	.4242	.558.4	.9113-03
56	50.000	550.00	.3294-01	.3982-01	.4446-01	.32.31	.1.064	.4209	.4209	.4209	.4209	.554.1	.4209	.554.1	.8815-03
56	50.000	551.00	.3317-01	.4075-01	.4475-01	.32.34	.1.073	.4204	.4204	.4204	.4204	.553.4	.4204	.553.4	.8876-03
56	50.000	552.00	.3218-01	.3893-01	.4348-01	.32.21	.1.037	.4227	.4227	.4227	.4227	.556.5	.4227	.556.5	.8617-03
56	50.000	553.00	.3370-01	.4074-01	.4550-01	.32.28	.1.088	.4215	.4215	.4215	.4215	.555.9	.4215	.555.9	.9020-03
56	50.000	554.00	.3402-01	.3923-01	.4392-01	.32.24	.1.046	.4221	.4221	.4221	.4221	.555.6	.4221	.555.6	.8685-03
56	50.000	555.00	.4471-01	.5417-01	.6038-01	.32.25	.1.046	.4220	.4220	.4220	.4220	.555.5	.4220	.555.5	.1197-02
56	50.000	556.00	.2330-01	.2816-01	.3145-01	.32.28	.7520	.7520	.7520	.7520	.7520	.554.8	.7520	.554.8	.6235-03
56	50.000	557.00	.2672-01	.3230-01	.3606-01	.32.30	.8630	.8630	.8630	.8630	.8630	.554.4	.8630	.554.4	.7151-03
56	50.000	558.00	.3731-01	.4511-01	.5039-01	.32.25	.1.203	.4219	.4219	.4219	.4219	.555.4	.4219	.555.4	.9987-03
56	50.000	559.00	.6625-01	.8009-01	.8943-01	.32.24	.1.046	.4213	.4213	.4213	.4213	.555.6	.4213	.555.6	.1773-02
56	50.000	560.00	.2417-01	.2921-01	.3261-01	.32.35	.7823	.7823	.7823	.7823	.7823	.552.9	.7823	.552.9	.6468-03
56	50.000	561.00	.1559-01	.1901-01	.2176-01	.31.91	.5012	.5012	.5012	.5012	.5012	.552.6	.5012	.552.6	.4208-03
56	50.000	562.00	.1518-01	.1839-01	.2056-01	.31.97	.4853	.4853	.4853	.4853	.4853	.561.9	.4853	.561.9	.4070-03
56	50.000	563.00	.1764-01	.2137-01	.2389-01	.31.99	.5643	.5643	.5643	.5643	.5643	.561.5	.5643	.561.5	.4729-03
56	50.000	564.00	.1876-01	.2272-01	.2540-01	.32.01	.6004	.6004	.6004	.6004	.6004	.561.0	.6004	.561.0	.5028-03
56	50.000	565.00	.4500-01	.5600-01	.6528-01	.32.13	.8383	.8383	.8383	.8383	.8383	.559.3	.8383	.559.3	.6990-03
56	50.000	566.00	.5000-01	.6000-01	.7413-01	.32.15	.9949	.9949	.9949	.9949	.9949	.557.7	.9949	.557.7	.8287-03
56	50.000	567.00	.5500-01	.6500-01	.8458-01	.32.20	.1.107	.4228	.4228	.4228	.4228	.556.5	.9206-03	.556.5	.9206-03
56	50.000	568.00	.6000-01	.7500-01	.9602-01	.32.22	.9596	.9596	.9596	.9596	.9596	.556.1	.9596	.556.1	.7973-03
56	50.000	569.00	.6500-01	.7842-01	.1.3437-01	.32.22	.9155	.9155	.9155	.9155	.9155	.556.3	.9155	.556.3	.7608-03

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3		ARC 3.5-178 IH3 ET		EXTERNAL TANK		H/W/H/T	DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	H/HREF R=0.85	QREF BTU/FT <sup>2</sup> SEC	QDOT BTU/FT <sup>2</sup> SEC			
56	135.00	.70000	570.00	.2751-01	.3324-01	.3710-01	.3710-01	.32.39	.8912	.4195	.552.3	.7360-03
56	135.00	.75000	571.00	.2657-01	.3211-01	.3585-01	.3585-01	.32.36	.8599	.4201	.553.0	.7110-03
56	135.00	.80000	572.00	.2716-01	.3285-01	.3670-01	.3670-01	.32.20	.8746	.4228	.556.6	.7272-03
56	135.00	.85000	573.00	.50.-0.01	.6093-01	.6804-01	.6804-01	.32.28	.1.627	.4215	.554.8	.1349-02
56	135.00	.90000	574.00	.3089-01	.3734-01	.4170-01	.4170-01	.32.31	.9981	.4210	.549.2	.8268-03
56	135.00	.93500	575.00	.1604	.1936	.2160	.2160	.32.51	.5.215	.4174	.549.4	.4288-02
57	157.00	.40000	576.00	.1337-01	.1615-01	.1822-01	.1822-01	.32.59	.4357	.4186	.553.3	.3584-03
57	157.00	.42500	577.00	.2724-01	.3289-01	.3669-01	.3669-01	.32.63	.8689	.4179	.552.5	.7302-03
57	157.00	.45000	578.00	.6365-01	.7682-01	.8569-01	.8569-01	.32.69	.2.081	.4169	.551.2	.1706-02
57	157.00	.47500	579.00	.5214-01	.6292-01	.7018-01	.7018-01	.32.71	.1.705	.4166	.550.8	.1397-02
57	157.00	.50000	580.00	.4754-01	.5738-01	.6400-01	.6400-01	.32.69	.1.554	.4169	.551.2	.1274-02
57	157.00	.55000	581.00	.2104-01	.2539-01	.2832-01	.2832-01	.32.70	.6879	.4168	.551.0	.5638-03
57	157.00	.60000	582.00	.2167-01	.2380-01	.2380-01	.2380-01	.32.65	.5771	.4175	.552.0	.4737-03
57	157.00	.65000	583.00	.2126-01	.2567-01	.2865-01	.2865-01	.32.61	.6932	.4183	.553.1	.5707-03
57	157.00	.70000	584.00	.2538-01	.30.5.-01	.3420-01	.3420-01	.32.61	.8276	.4183	.553.0	.6804-03
57	157.00	.75000	585.00	.2466-01	.2978-01	.3323-01	.3323-01	.32.61	.8040	.4183	.553.1	.6611-03
57	157.00	.80000	586.00	.2081-01	.2513-01	.2804-01	.2804-01	.32.60	.6783	.4184	.553.1	.5578-03
57	157.00	.85000	587.00	.2102-01	.2537-01	.2831-01	.2831-01	.32.64	.6860	.4177	.552.3	.5633-03
57	157.00	.90000	588.00	.4909-01	.5926-01	.6611-01	.6611-01	.32.67	.1.604	.4177	.551.5	.1316-02
57	157.00	.42500	589.00	.4863-01	.5873-01	.6553-01	.6553-01	.32.62	.1.586	.4181	.532.8	.1304-02
57	157.00	.40000	593.00	.2196-01	.2653-01	.2960-01	.2960-01	.32.58	.7156	.4188	.553.0	.5890-03
57	165.00	.50000	594.00	.2641-01	.3189-01	.3557-01	.3557-01	.32.68	.8631	.4171	.551.5	.7079-03
57	165.00	.70000	591.00	.2224-01	.2686-01	.2998-01	.2998-01	.32.59	.7249	.4186	.553.4	.5964-03
57	165.00	.90000	592.00	.3591-01	.4335-01	.4836-01	.4836-01	.32.65	.1.172	.4175	.552.0	.9625-03
57	180.00	.00000	594.00	.6841	.8279	.9251	.9251	.32.27	.22.08	.4242	.560.8	.1837-01
57	180.00	.50000-02	595.00	.4693	.5914	.6604	.6604	.32.44	.15.87	.4211	.556.8	.1313-01
57	180.00	.10000-01	596.00	.5470	.6606	.7372	.7372	.32.59	.17.83	.4186	.553.0	.1467-01
57	180.00	.40000-01	597.00	.1917	.2313	.2581	.2581	.32.68	.6.264	.4170	.551.4	.5137-02
57	180.00	.80000-01	598.00	.1392	.1681	.1876	.1876	.32.63	.4.543	.4180	.552.6	.3732-02
57	180.00	.15000	599.00	.4469-01	.5398-01	.6025-01	.6025-01	.32.55	.1.455	.4192	.554.3	.1198-02
57	180.00	.20000	600.00	.1767-01	.2134-01	.2381-01	.2381-01	.32.60	.5761	.4184	.553.1	.4738-03
57	180.00	.25000	601.00	.7755-02	.9365-02	.1045-01	.1045-01	.32.61	.2529	.4183	.553.0	.2979-03
57	180.00	.30000	602.00	.5261-02	.6356-02	.7094-02	.7094-02	.32.54	.1712	.4194	.554.6	.1411-03
57	180.00	.35000	603.00	.5616-02	.6784-02	.7571-02	.7571-02	.32.56	.1.6229	.4191	.554.0	.1506-03
57	180.00	.37500	604.00	.6128-02	.7402-02	.8260-02	.8260-02	.32.58	.1.996	.4188	.553.7	.1643-03
57	180.00	.40000	605.00	.1876-01	.2256-01	.2529-01	.2529-01	.32.60	.6117	.4185	.553.3	.5031-03
57	180.00	.42500	606.00	.3929-01	.4745-01	.5295-01	.5295-01	.32.60	.1.281	.4185	.553.3	.1054-02
57	180.00	.45000	607.00	.2104	.2541	.2835	.2835	.32.63	.6.665	.4179	.552.6	.5641-02
57	180.00	.47500	608.00	.6216-01	.9322-01	.1.107	.1.107	.32.61	.2.679	.4182	.553.0	.2203-02
57	180.00	.50000	609.00	.1679-01	.2027-01	.2262-01	.2262-01	.32.61	.5476	.4182	.552.9	.4501-03
57	180.00	.52500	610.00	.4779-01	.5771-01	.6439-01	.6439-01	.32.62	.1.559	.4182	.553.0	.1281-02
57	180.00	.55000	611.00	.5930-01	.7161-01	.7991-01	.7991-01	.32.61	.1.534	.4182	.553.0	.1590-02
57	180.00	.57500	612.00	.4364-01	.5271-01	.5881-01	.5881-01	.32.60	.1.423	.4184	.553.2	.1170-02

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR.

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(REIT10)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 1H3 ET		EXTERNAL TANK		H/H/T	TW	DFG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	H/HREF, R=0.85	QREF BTU/ FT2SEC				
57	189.00	.60000	613.00	.3636-01	.4391-01	.4901-01	32.57	1.184	.4189	.553.8	.9749-03
57	180.00	.62500	614.00	.3311-01	.3999-01	.4464-01	32.55	1.078	.4193	.554.4	.8879-03
57	180.00	.65000	615.00	.3149-01	.3804-01	.4246-01	32.54	1.025	.4192	.554.6	.8445-03
57	180.00	.57500	616.00	.3246-01	.3921-01	.4377-01	32.54	1.056	.4193	.554.7	.8705-03
57	186.00	.70000	617.00	.3235-01	.3908-01	.4362-01	32.55	1.053	.4193	.554.4	.8677-03
57	180.00	.75000	518.00	.3243-01	.3917-01	.4372-01	32.57	1.056	.4190	.553.9	.8697-03
57	180.00	.80000	619.00	.3139-01	.3792-01	.4233-01	32.52	1.021	.4198	.555.0	.8419-03
57	180.00	.85000	620.00	.3245-01	.3914-01	.4368-01	32.55	1.054	.4193	.554.4	.9689-03
57	180.00	.90000	621.00	.2984-01	.3604-01	.4022-01	32.58	.9722	.4188	.553.7	.8001-03
57	180.00	.93700	622.00	.9814-01	.1185	.1322	32.64	3.203	.4178	.552.4	.2631-02
57	180.00	.97500	623.00	.8843-02	.1069-01	.1193-01	32.57	.2882	.4189	.553.8	.2373-03
57	194.00	.80000	624.00	.1011	.1220	.1360	32.76	.3.313	.4157	.549.6	.2709-02
57	196.00	.15000	625.00	.4493-01	.5421-01	.6049-01	32.72	1.470	.4164	.550.5	.1204-02
57	195.00	.30000	626.00	.3100-01	.3742-01	.4174-01	32.69	1.014	.4168	.551.1	.8309-03
57	196.00	.50000	627.00	.4754-01	.5736-01	.6397-01	32.74	.556	.4160	.550.0	.1274-02
57	195.00	.70000	628.00	.1641-01	.1980-01	.2209-01	32.69	.5364	.4168	.551.1	.4397-02
57	197.00	.90000	629.00	.3548-01	.4282-01	.4779-01	32.73	1.161	.4161	.550.2	.9507-12
57	208.00	.15000	630.00	.4376-01	.5280-01	.5888-01	32.75	1.433	.4158	.549.7	.1172-02
57	238.00	.50000	631.00	.3404-01	.4105-01	.4577-01	32.30	1.116	.4150	.548.6	.9117-03
57	208.00	.60000	632.00	.2283-01	.2754-01	.3070-01	32.77	.7481	.4154	.549.3	.6114-03
57	208.00	.62000	633.00	.2346-01	.2830-01	.3197-01	32.73	.7677	.4162	.550.3	.6285-03
57	208.00	.63700	634.00	.8813-01	.1063	.1186	32.76	2.887	.4157	.549.6	.2361-02
57	216.00	.40000	635.00	.3361-01	.4054-01	.4519-01	32.83	1.104	.4144	.547.9	.9001-03
57	216.00	.50000	636.00	.2543-01	.3067-01	.3419-01	32.83	.8347	.4145	.548.1	.6810-03
57	216.00	.70000	637.00	.2407-01	.2905-01	.3209-01	32.73	.7878	.4162	.550.3	.6450-03
57	222.50	.33500	638.00	.5915-02	.7139-02	.7963-02	32.70	.1934	.4168	.551.0	.1585-03
57	229.00	.40000	639.00	.4030-01	.4861-01	.5419-01	32.81	.1.322	.4148	.548.4	.1079-02
57	229.00	.60000	640.00	.2995-01	.3611-01	.4026-01	32.84	.9834	.4143	.547.7	.8019-03
57	229.50	.80000	641.00	.2264-01	.2751-01	.3044-01	32.81	.7428	.4148	.548.4	.6064-03

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## EXTERNAL TANK

(REITII)

ARC 3.5-178 IH3 ET EXTERNAL TANK

(REITII)

RN/L = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

PARAMETRIC DATA

(REITII)

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
58	5.300	.5086+.07	405.3	1287.	314.1	.1750-.01	.8292	.0000
59	5.300	.5C93+.07	405.3	1286.	312.9	.1750-.01	.8296	.0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT <sup>2</sup> SEC	QDOT BTU/FT <sup>2</sup> SEC	HW/HT	TW DEG. R	STN NO R=0.9	
59	.00000	.400000-01	501.00	.1494	.1825	.2054	.55.64	.4493	.587.6	.2202-02	
59	.00000	.800000-01	502.00	.8726-01	.0055	.1197	.55.89	.4469	.584.5	.1285-02	
59	.00000	.150000-01	503.00	.3460-01	.4220-01	.4740-01	.56.14	.4877			
59	.00000	.400000-01	504.00	.3761-01	.5749-01	.5128-01	.56.39	.1.943	.581.3	.5091-03	
59	.00000	.600000-01	505.00	.4225-01	.5132-01	.5750-01	.57.17	.2.140	.571.9	.5520-03	
59	.00000	.800000-01	506.00	.4015-01	.4877-01	.5464-01	.57.21	.2.415	.568.4	.6195-03	
59	.45.000	.400000-01	507.00	.1489-01	.5437-01	.6097-01	.56.78	.2.537	.4342	.568.0	
59	.45.000	.500000-01	508.00	.3774-01	.4587-01	.5141-01	.57.00	.2.151	.4383	.573.4	
59	.45.000	.600000-01	509.00	.3762-01	.4717-01	.5287-01	.56.99	.2.211	.4362	.570.5	
59	.45.000	.700000-01	510.00	.3815-01	.6337-01	.5196-01	.57.07	.2.177	.4363	.5692-03	
59	.45.000	.800000-01	511.00	.3695-01	.4993-01	.5036-01	.56.95	.2.104	.4356	.569.7	
59	.45.000	.900000-01	512.00	.3714-01	.4514-01	.5018-01	.57.08	.2.120	.4367	.571.2	
59	.45.000	.500000-01	513.00	.4207-01	.5171-01	.5801-01	.56.61	.2.104	.4354	.569.6	
59	.45.000	.200000-01	514.00	.4311-01	.5551-01	.6.28-01	.56.66	.4400	.575.5	.6239-03	
59	.45.000	.400000-01	515.00	.4671-01	.5671-01	.6.495-01	.56.76	.2.584	.4395	.574.9	.6699-03
59	.67.500	.516.00	.4291-01	.5219-01	.5852-01	.56.85	.2.440	.4385	.573.6	.6871-03	
59	.67.500	.600000-01	517.00	.3881-01	.4720-01	.5293-01	.56.85	.2.206	.4376	.572.3	.6298-03
59	.67.500	.62.0000-01	518.00	.3822-01	.4659-01	.5226-01	.56.65	.2.168	.4377	.572.5	.5697-03
59	.67.500	.710500-01	519.00	.3740-01	.4517-01	.5097-01	.56.94	.2.129	.4396	.574.9	.5622-03
59	.67.500	.750000-01	520.00	.3721-01	.4523-01	.5070-01	.56.98	.2.120	.4368	.571.4	.5488-03
59	.67.500	.800000-01	521.00	.3561-01	.4333-01	.4860-01	.56.71	.2.019	.4364	.570.8	.5459-03
59	.67.500	.900000-01	522.00	.3559-01	.4328-01	.4854-01	.56.79	.2.020	.4390	.574.2	.5229-03
59	.90.000	.200000-01	523.00	.4255-01	.5164-01	.5791-01	.56.78	.2.413	.4382	.573.2	.5223-03
59	.90.000	.250000-01	524.00	.3178-01	.3863-01	.4329-01	.57.06	.1.813	.4383	.573.3	.6232-03
59	.90.000	.275000-01	525.00	.3493-01	.4191-01	.4701-01	.56.56	.1.951	.4357	.569.9	.4662-03
59	.90.000	.300000-01	526.00	.3529-01	.4296-01	.4819-01	.56.56	.2.000	.4394	.574.8	.5057-03

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(RETIRED)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3-5-178 1H3 E1			EXTERNAL TANK			MM/HT			TW DFG. R			STN NO R=0.9		
				H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QDOT BTU/FT2SEC	QREF BTU/FT2SEC	MM/HT									
59	90.000	.32500	527.00	.3663-01	.4457-01	.4999-01	56.72	2.077	.4389	574.1	.5378-03							
59	90.000	.35000	528.00	.3938-01	.4864-01	.5456-01	56.77	2.268	.4387	573.8	.5870-03							
59	90.000	.40000	529.00	.4131-01	.5025-01	.5635-01	56.79	2.346	.4383	573.3	.6064-03							
59	90.000	.45000	530.00	.4421-01	.5378-01	.6031-01	56.81	2.512	.4380	572.9	.6490-03							
59	90.000	.50000	531.00	.4243-01	.5161-01	.5788-01	56.79	2.409	.4387	573.2	.6228-03							
59	90.000	.55000	532.00	.4107-01	.4995-01	.5603-01	56.79	2.332	.4382	573.7	.6029-03							
59	90.000	.60000	533.00	.4057-01	.4936-01	.5536-01	56.75	2.302	.4386	573.0	.5956-03							
59	90.000	.65000	534.00	.4007-01	.4878-01	.5473-01	56.61	2.269	.4409	575.5	.5887-03							
59	90.000	.70000	535.00	.3812-01	.4634-01	.5195-01	56.95	2.170	.4367	571.3	.5693-03							
59	90.000	.75000	536.00	.3861-01	.4694-01	.5262-01	56.95	2.199	.4367	571.2	.5665-03							
59	90.000	.80000	537.00	.3659-01	.4443-01	.4985-01	56.64	2.068	.4396	575.1	.5362-03							
59	90.000	.85000	538.00	.3575-01	.4353-01	.4883-01	56.61	2.024	.4400	575.5	.5252-03							
59	90.000	.90000	539.00	.3662-01	.4458-01	.5001-01	56.61	2.073	.4400	575.5	.5379-03							
59	90.000	.95000	540.00	.4226-01	.5142-01	.5768-01	56.72	2.397	.4389	574.9	.6205-03							
59	91.2.50	.30000	541.00	.4045-01	.4918-01	.5513-01	56.94	2.303	.4467	571.3	.5935-03							
59	91.2.50	.32500	542.00	.4061-01	.4938-01	.5535-01	56.95	2.313	.4467	571.2	.5959-03							
59	91.2.50	.35000	543.00	.4097-01	.4982-01	.5585-01	56.91	2.331	.4471	571.8	.6013-03							
59	91.2.50	.40000	544.00	.4259-01	.5180-01	.5809-01	56.65	2.422	.4422	572.4	.6252-03							
59	91.2.50	.45000	545.00	.4264-01	.5189-01	.5819-01	56.75	2.420	.4386	573.7	.6261-03							
59	91.2.50	.50000	546.00	.4061-01	.4942-01	.5543-01	56.70	2.302	.4391	574.4	.5963-03							
59	91.2.50	.55000	547.00	.4130-01	.5026-01	.5638-01	56.68	2.341	.4393	574.6	.6065-03							
59	91.2.50	.60000	548.00	.3875-01	.4716-01	.5291-01	56.64	2.195	.4396	575.0	.5691-03							
59	91.2.50	.65000	549.00	.3828-01	.4662-01	.5232-01	56.53	2.164	.4407	576.5	.5625-03							
59	91.2.50	.70000	550.00	.3622-01	.4406-01	.4941-01	56.61	2.058	.4380	572.9	.5317-03							
59	91.2.50	.75000	551.00	.3599-01	.4378-01	.4909-01	56.86	2.047	.4376	572.3	.5283-03							
59	91.2.50	.80000	552.00	.3484-01	.4240-01	.4756-01	56.65	1.974	.4394	574.8	.5116-03							
59	91.2.50	.85000	553.00	.3475-01	.4225-01	.4736-01	56.93	1.978	.4368	571.1	.5099-03							
59	91.2.50	.90000	554.00	.3370-01	.4151-01	.4600-01	56.71	1.911	.4390	574.2	.4949-03							
59	91.2.50	.95000	555.00	.4991-01	.6067-01	.6800-01	57.00	2.845	.4363	570.6	.7322-03							
59	91.2.50	.10000	556.00	.4323-01	.4846-01	.56.93	2.024	.4369	571.5	.5217-03								
59	91.2.50	.10500	557.00	.3391-01	.4124-01	.4625-01	56.83	1.927	.4379	572.8	.4977-03							
59	91.2.50	.11000	558.00	.3890-01	.4725-01	.5311-01	56.69	2.205	.4392	574.5	.5713-03							
59	91.2.50	.11500	559.00	.6967-01	.6477-01	.9506-01	56.78	3.956	.4384	573.4	.1023-02							
59	91.2.50	.12000	560.00	.2484-01	.3020-01	.3386-01	56.87	1.412	.4374	572.1	.3645-03							
59	91.2.50	.12500	561.00	.3806-01	.4633-01	.5197-01	56.67	2.157	.4394	574.7	.5590-03							
59	91.2.50	.13000	562.00	.3854-01	.4689-01	.5260-01	56.74	2.187	.4387	573.9	.5659-03							
59	91.2.50	.13500	563.00	.3839-01	.4672-01	.5210-01	56.71	2.177	.4390	574.2	.5637-03							
59	91.2.50	.14000	564.00	.3969-01	.4829-01	.5416-01	56.74	2.252	.4387	573.8	.5827-03							
59	91.2.50	.14500	565.00	.3869-01	.4702-01	.5268-01	57.11	2.210	.4352	569.2	.5675-03							
59	91.2.50	.15000	566.00	.3788-01	.4603-01	.5157-01	57.11	2.163	.4351	569.1	.5555-03							
59	91.2.50	.15500	567.00	.3875-01	.4708-01	.5275-01	57.13	2.214	.4349	568.9	.5682-03							
59	91.2.50	.16000	568.00	.3314-01	.4027-01	.4512-01	57.09	1.892	.4354	569.5	.4860-03							
59	91.2.50	.16500	569.00	.3157-01	.3838-01	.4303-01	56.96	1.798	.4366	571.0	.4632-03							

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RUN NUMBER	PHI	T/C NO	X/L	ARC 3.5-178 IH3 ET		EXTERNAL TANK	H/HREF R=0.9	H/HREF R=1.0	H/HREF R=0.85	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	TW DEG. R	STN NO R=0.9
				W/HREF	R=0.9								
59	135.00	70000	570.00	.3316-01	.4029-01	.4514-01	.57.16	.8895	.4347	.568.6	.4863-03		
59	135.00	.75000	571.00	.3173-01	.3856-01	.4320-01	.57.14	.8183	.4349	.568.9	.4653-03		
59	135.00	.80000	572.00	.3137-01	.3816-01	.4279-01	.56.80	.1781	.1381	.573.1	.4605-03		
59	135.00	.85000	573.00	.4776-01	.5807-01	.6509-01	.56.96	.2720	.4366	.571.1	.7008-03		
59	135.00	.90000	574.00	.3045-01	.3704-01	.4153-01	.56.86	.1731	.4376	.572.4	.4470-03		
59	135.00	.93500	575.00	.1546	.4081-01	.4955-01	.5549-01	.57.41	.2343	.4327	.565.5	.2265-02	
58	157.00	.40000	576.00	.4081-01	.4955-01	.5654-01	.7349-01	.57.48	.3109	.4321	.565.6	.5984-03	
58	157.00	.42500	577.00	.5408-01	.6020-01	.7260-01	.7779-01	.57.75	.3311	.4295	.562.3	.7928-03	
58	157.00	.45000	578.00	.5734-01	.6952-01	.7065-01	.4476-01	.57.91	.2980	.560.3	.8398-03		
58	157.00	.47500	579.00	.5042-01	.6111-01	.6836-01	.6836-01	.57.89	.2919	.4282	.560.6	.7383-03	
58	157.00	.50000	580.00	.5848-01	.7088-01	.7929-01	.7929-01	.57.87	.3384	.4283	.560.6	.8563-03	
58	157.00	.55000	581.00	.2950-01	.3574-01	.3997-01	.58.01	.1712	.4270	.559.0	.4318-03		
58	157.00	.60000	582.00	.3144-01	.3809-01	.4260-01	.57.95	.1822	.4276	.559.7	.4602-03		
58	157.00	.65000	583.00	.3302-01	.4002-01	.4476-01	.4476-01	.57.91	.2980	.560.3	.4834-03		
58	157.00	.70000	584.00	.3457-01	.4189-01	.4685-01	.57.95	.2023	.4276	.559.8	.5061-03		
58	157.00	.75000	585.00	.3200-01	.3877-01	.4335-01	.57.98	.1855	.4273	.559.4	.4683-03		
58	157.00	.80000	586.00	.2681-01	.3248-01	.3631-01	.58.04	.1556	.4268	.558.7	.3924-03		
58	157.00	.85000	587.00	.2552-01	.3090-u1	.3454-01	.58.17	.1484	.4255	.557.1	.3733-03		
58	157.00	.90000	588.00	.5222-01	.6321-01	.7065-01	.58.22	.3040	.4250	.556.3	.7638-03		
58	161.50	.42500	589.00	.6751-01	.8196-01	.9177-01	.57.44	.3878	.4325	.566.2	.9898-03		
58	161.50	.40000	593.00	.4336-01	.5265-01	.5897-01	.57.37	.2488	.4322	.567.1	.6359-03		
58	161.50	.50000	590.00	.3674-01	.4453-01	.4981-01	.57.88	.2127	.4283	.560.7	.5380-03		
58	161.50	.70000	591.00	.3414-01	.4138-01	.4628-01	.57.90	.1977	.4281	.560.4	.4999-03		
58	161.50	.90000	592.00	.4927-01	.5965-01	.6667-01	.58.19	.2867	.4253	.565.7	.7207-03		
58	161.50	.00000	594.00	.6076	.7429	.8359	.55.52	.3374	.4508	.591.2	.8963-02		
58	161.50	.50000	595.00	.4942	.6024	.6764	.56.32	.27.83	.4232	.580.2	.8963-02		
58	161.50	.55000	596.00	.5678	.6904	.7739	.57.01	.32.37	.4366	.571.6	.8336-02		
58	161.50	.60000	597.00	.3669	.4453	.4985	.57.52	.21.10	.4337	.565.2	.5378-02		
58	161.50	.80000	598.00	.2650	.3217	.3603	.57.38	.15.20	.4331	.566.9	.7886-02		
58	161.50	.15000	599.00	.9498-01	.1154	.1292	.57.28	.5441	.4310	.568.2	.1393-02		
58	161.50	.20000	600.00	.9883-01	.5925-01	.6633-01	.57.53	.2809	.4316	.565.0	.7158-03		
58	161.50	.22000	601.00	.3486-01	.4229-01	.4733-01	.57.61	.2009	.4369	.564.1	.5108-03		
58	161.50	.30000	602.00	.3530-01	.4287-01	.4803-01	.57.28	.2022	.4340	.568.2	.5178-03		
58	161.50	.31000	603.00	.3338-01	.4052-01	.4538-01	.57.39	.1915	.4330	.566.8	.4894-03		
58	161.50	.37500	604.00	.3173-01	.3851-01	.4312-01	.57.44	.1822	.4324	.565.1	.4651-03		
58	161.50	.40000	605.00	.2856-01	.3465-01	.3880-01	.57.52	.1643	.4317	.565.2	.4186-03		
58	161.50	.42500	606.00	.5383-01	.6534-01	.7316-01	.57.48	.3094	.4321	.565.7	.7891-03		
58	161.50	.45000	607.00	.1787	.2168	.2927	.57.54	.10.28	.4355	.564.9	.2619-02		
58	161.50	.47500	608.00	.7781-01	.9442-01	.1057	.57.56	.4479	.4333	.564.6	.1140-02		
58	161.50	.50000	609.00	.1681-01	.2040-01	.2283-01	.57.57	.9678	.4332	.564.5	.2463-03		
58	161.50	.52500	610.00	.8584-01	.1041	.1165	.57.65	.4949	.4305	.563.5	.1258-02		
58	161.50	.55000	611.00	.7130-01	.8648-01	.9679-01	.57.66	.4112	.4303	.563.4	.1045-02		
58	161.50	.612.00	.4842-01	.5873-01	.6573-01	.6573-01	.57.67	.2793	.4302	.563.2	.7094-03		

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RUN NUMBER	PH1	X/L	T/C NO	H/HREF R 1.0	H/HREF R=0.9	H/HREF R=0.85	EXTERNAL TANK	MMT	MM/HT	MM/HT	MM/HT	STN NO R=0.9
58	180.00	.60000	613.00	.4321-01	.5243-01	.5868-01	OREF FT2SEC	2.489	.4310	.564.3	.6798-03	
58	180.00	.62500	614.00	.4639-01	.5628-01	.6301-01	OREF FT2SEC	57.59	.4314	.564.8	.7282-03	
58	180.00	.65000	615.00	.4969-01	.6029-01	.6749-01	OREF FT2SEC	2.670	.4314	.564.7	.7174-03	
58	180.00	.67500	616.00	.4898-01	.5939-01	.6645-01	OREF FT2SEC	57.78	.4292	.561.9	.6950-03	
58	180.00	.70000	617.00	.4746-01	.5754-01	.6436-01	OREF FT2SEC	2.745	.4287	.561.2	.6801-03	
58	180.00	.75000	618.00	.4616-01	.5630-01	.6296-01	OREF FT2SEC	57.94	.4277	.559.9	.6571-03	
58	180.00	.80000	619.00	.4486-01	.5439-01	.6086-01	OREF FT2SEC	2.591	.4295	.562.2	.6761-03	
58	180.00	.85000	620.00	.4616-01	.5597-01	.6262-01	OREF FT2SEC	57.76	.4294	.562.1	.9692-03	
58	180.00	.90000	621.00	.4662-01	.8023-01	.8973-01	OREF FT2SEC	57.92	.4278	.560.1	.9692-03	
58	180.00	.93700	622.00	.9319-01	.1128	.1261	OREF FT2SEC	58.24	.4248	.556.1	.1363-C2	
58	180.00	.97500	623.00	.9105-02	.1103-01	.1233-01	OREF FT2SEC	58.11	.4261	.557.8	.1332-03	
58	194.00	.80000-01	624.00	.2028	.2456	.2747	OREF FT2SEC	58.05	.11.77	.558.5	.2968-02	
58	196.00	.15000	625.00	.7633-21	.9205-01	.1029	OREF FT2SEC	58.07	.4.414	.4266	.558.2	
58	196.00	.30000	626.00	.3114-01	.37772-01	.4217-01	OREF FT2SEC	58.09	.4264	.558.2	.4557-03	
58	196.00	.50000	627.00	.5271-01	.6381-01	.7131-01	OREF FT2SEC	58.23	.3.069	.4249	.556.3	
58	196.00	.70000	628.00	.6261-01	.2734-01	.3053-01	OREF FT2SEC	58.57	.1.324	.4217	.3304-03	
58	197.00	.90000	629.00	.3196-01	.3864-01	.4314-01	OREF FT2SEC	58.63	.1.874	.4211	.4669-03	
58	198.00	.15000	630.00	.8748-01	.1059	.1183	OREF FT2SEC	58.31	.5.101	.4212	.555.3	
58	208.00	.40000	631.00	.4033-01	.4878-01	.5448-01	OREF FT2SEC	58.49	.2.359	.4224	.553.0	
58	208.00	.60000	632.00	.3571-01	.4322-01	.4828-01	OREF FT2SEC	58.52	.2.092	.4221	.552.6	
58	208.00	.80000	633.00	.3089-01	.3737-01	.4175-01	OREF FT2SEC	58.37	.1.803	.4236	.554.5	
58	238.00	.93700	634.00	.9111-01	.1102	.1231	OREF FT2SEC	58.47	.5.327	.4226	.553.3	
58	216.00	.40000	635.00	.7987-01	.4823-01	.5388-01	OREF FT2SEC	58.43	.2.330	.4230	.5829-03	
58	216.00	.50000	625.00	.3223-01	.3897-01	.4353-01	OREF FT2SEC	58.50	.1.885	.4224	.552.9	
58	216.00	.70000	637.00	.3067-01	.3710-01	.4145-01	OREF FT2SEC	58.39	.1.791	.4233	.4484-03	
58	272.50	.34500	638.00	.3313-01	.4050-01	.4530-01	OREF FT2SEC	57.92	.1.936	.4279	.560.1	
58	229.00	.40000	639.00	.4406-01	.5330-01	.5955-01	OREF FT2SEC	58.41	.2.574	.4232	.6441-03	
58	229.00	.60000	640.00	.4217-01	.5095-01	.5686-01	OREF FT2SEC	58.80	.2.480	.4194	.549.1	
58	229.00	.80.000	641.00	.3027-01	.3654-21	.4080-01	OREF FT2SEC	58.72	.1.776	.4202	.550.2	

DATE 24 JAN 76

ARC 3.5-178 IH3

## EXTERNAL TANK

ARC 3.5-178 IH3 ET (TRIPS)

EXTERNAL TANK

RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	PHOVEL SLUG/FT SEC	ALPHA DEG.	PARAMETRIC DATA	ELEVON = .0000	PAGE 68 (REIT12)
60	5.300	.5058+07	405.3	1291.	315.3	1750-01	.8275	.0000			
61	5.300	.5073+07	405.6	1290.	314.8	1750-01	.8288	.0000			

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	POOT BTU/FT SEC	QREF BTU/FT SEC	QDOT BTU/FT SEC	HM/HT	TW DEG. R	STN NO R=0.9
60	.00000	.40000-01	501.00	.1445	.1765	.1986	.55.88	8.072	.4496	.590.7
60	.00000	.80000-01	502.00	.871.0-01	.1067	.1199	56.13	.4.906	.4471	.587.5
60	.00000	.15000	503.00	.1.158	.1412	.1586	56.42	6.531	.4444	.583.9
60	.00000	.40000	504.00	.4359-01	.5302-01	.5544-01	57.17	2.492	.372	.1708-02
60	.00000	.60000	505.00	.3639-01	.4422-01	.4955-01	57.39	.0.351	.351	.6416-03
60	.00000	.80000	506.00	.3566-01	.4454-01	.4990-01	57.44	2.105	.347	.5352-03
60	.45.000	.40000	507.00	.4288-01	.5217-01	.5851-01	57.05	2.446	.383	.5390-03
60	.45.000	.50000	508.00	.4288-01	.5217-01	.5851-01	57.05	2.446	.383	.571.2
60	.45.000	.60000	509.00	.3698-01	.4428-01	.4964-01	57.22	2.084	.367	.576.0
60	.45.000	.70000	510.00	.3610-01	.4390-01	.4981-01	57.16	2.114	.373	.573.9
50	.45.000	.80000	511.00	.3542-01	.4308-01	.4830-01	57.20	2.065	.369	.574.6
60	.45.000	.90000	512.00	.3583-01	.4356-01	.4882-01	57.12	2.023	.377	.5313-03
60	.67.500	.30000	513.00	.4288-01	.5220-01	.5657-01	56.88	2.052	.362	.5271-03
60	.67.500	.35000	514.00	.4308-01	.5244-01	.5683-01	56.90	2.451	.400	.5359-03
60	.67.500	.40000	515.00	.4362-01	.5309-01	.5955-01	56.98	.485	.373	.5443-03
60	.67.500	.50000	516.00	.4035-01	.4910-01	.5507-01	57.01	2.300	.387	.574.2
60	.67.500	.60100	517.00	.3728-01	.4537-01	.5030-01	56.97	2.124	.391	.5213-03
60	.67.500	.65000	518.00	.3713-01	.4521-01	.5074-01	56.79	2.108	.409	.573.1
60	.67.500	.70100	519.00	.3693-01	.4493-01	.5039-01	57.05	2.107	.394	.6316-03
60	.67.500	.75000	520.00	.3656-01	.4447-01	.4987-01	57.03	2.087	.397	.6345-03
60	.67.500	.80000	521.00	.3554-01	.4328-01	.4856-01	56.85	2.021	.402	.6424-03
F0	.67.500	.90000	522.00	.3557-01	.4328-01	.4855-01	56.95	2.026	.393	.5238-03
60	.90.000	.20000	523.00	.5831-01	.7096-01	.7959-01	56.99	3.323	.389	.577.2
60	.90.000	.25000	524.00	.4186-01	.5089-01	.5705-01	57.23	2.396	.366	.6159-03
60	.90.000	.27500	525.00	.4276-01	.5206-01	.5840-01	56.89	2.433	.398	.6299-03
60	.90.000	.30000	526.00	.4218-01	.5134-01	.5760-01	56.09	2.399	.399	.578.0

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

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DATE 24 JAN 76

ARC 3.5-178 1H3

PAG: 69

(REIT12)

RUN NUMBER	PH1	X/L	T/C NO	ARC 3.5-178 1H3			ET (TRIPS)			EXTERNAL TANK			QDOT BTU/ FT2SEC	STN NO R=0.9
				H/HREF R=1..	H/HREF R=0.9	H/HREF R=0.85	H/HREF	H/HREF	H/HREF	QREF BTU/ FT2SEC	TH LEG. R			
60	90.000	.32500	327.00	.4186-01	.5095-01	.5715-01	.56.94	2.384	.4394	577.4	.6165-03			
60	90.000	.35000	528.00	.4307-01	.5242-01	.5880-01	.56.93	2.452	.4395	577.5	.6343-03			
60	90.000	.40000	529.20	.4123-01	.5016-01	.5629-01	.56.95	2.348	.4393	577.3	.6072-03			
60	90.000	.45000	530.00	.4230-01	.5148-01	.5775-01	.56.93	2.408	.4395	577.5	.6230-03			
60	90.000	.50000	531.00	.3971-01	.4834-01	.5233-01	.56.89	2.259	.4399	578.0	.5849-03			
60	90.000	.53000	532.00	.3845-01	.4682-01	.5253-01	.56.87	2.187	.4400	577.2	.5665-03			
60	90.000	.52000	533.00	.3799-01	.4626-01	.5190-01	.56.85	2.160	.4403	578.6	.5597-03			
60	90.000	.55000	534.00	.3781-01	.4605-01	.5168-01	.56.72	2.144	.4415	580.1	.5572-03			
60	90.000	.70000	535.00	.3588-01	.4365-01	.4986-01	.57.04	2.047	.4384	576.1	.5283-03			
60	90.000	.75000	536.00	.3611-01	.4393-01	.4922-01	.57.05	2.060	.4383	575.9	.5316-03			
60	90.000	.80000	537.00	.3428-01	.4175-01	.4686-01	.55.76	1.946	.4411	579.6	.5052-03			
60	90.000	.85000	538.00	.3400-01	.4141-01	.4648-01	.56.74	1.929	.4413	579.9	.5010-03			
60	90.000	.90000	539.20	.3459-01	.4213-01	.4728-01	.56.76	1.963	.4411	579.6	.5098-03			
60	90.000	.90000	540.00	.4351-01	.5296-01	.5912-01	.56.92	2.477	.4396	577.6	.6409-03			
60	90.000	.51250	541.00	.4238-01	.5155-01	.5781-01	.57.09	2.419	.4380	575.5	.6239-03			
60	90.000	.51250	542.00	.4210-01	.5122-01	.5744-01	.57.07	2.403	.4382	575.8	.6198-03			
60	90.000	.51250	543.00	.4232-01	.5149-01	.5775-01	.57.02	2.413	.4386	576.4	.6231-03			
60	90.000	.51250	544.00	.4254-01	.5178-01	.5808-01	.56.94	2.423	.4394	577.3	.6265-03			
60	90.000	.51250	545.00	.4263-01	.5191-01	.5824-01	.56.82	2.422	.4405	578.9	.6280-03			
60	90.000	.51250	546.00	.4049-01	.4932-01	.5535-01	.56.76	2.298	.4411	579.6	.5967-03			
60	90.000	.51250	547.00	.4083-01	.4973-01	.5582-01	.56.75	2.317	.4413	579.8	.6018-03			
60	90.000	.51250	548.00	.3851-01	.4691-01	.5265-01	.56.70	2.184	.4417	580.4	.5676-03			
60	90.000	.51250	549.00	.3826-01	.4662-01	.5234-01	.56.61	2.166	.4425	581.5	.5640-03			
60	90.000	.70000	550.00	.3642-01	.4434-01	.4915-01	.56.89	2.072	.4399	578.0	.5365-03			
60	90.000	.75000	551.00	.3738-01	.4549-01	.5103-01	.56.96	2.129	.4392	577.1	.5505-03			
60	90.000	.80000	552.00	.3446-01	.4197-01	.5477-01	.56.78	1.957	.4410	579.4	.5078-03			
60	90.000	.85000	553.00	.3577-01	.4353-01	.4882-01	.57.00	2.039	.4389	576.7	.5268-03			
60	90.000	.90000	554.00	.3424-01	.4169-01	.4679-01	.56.80	1.945	.4407	579.1	.5045-03			
60	112.50	.82500	555.00	.5064-01	.6161-01	.6309-01	.57.08	2.891	.4381	575.6	.7455-03			
60	112.50	.82500	556.00	.3561-01	.4332-01	.4859-01	.57.00	2.031	.4398	576.1	.5245-03			
60	112.50	.87500	557.00	.3348-01	.4075-01	.4577-01	.56.95	1.907	.4393	576.1	.4931-03			
60	112.50	.90000	558.00	.3920-01	.4773-01	.5356-01	.56.84	2.228	.4404	578.7	.5776-03			
60	112.50	.92500	559.00	.6754-01	.8221-01	.9222-01	.56.93	3.845	.4395	577.5	.9948-03			
60	112.50	.96000	560.00	.2563-01	.3113-01	.2498-01	.57.03	1.462	.4386	576.3	.3774-03			
60	112.50	.98000	561.00	.3940-01	.4798-01	.5383-01	.56.82	2.239	.4406	578.9	.5805-03			
60	112.50	.98000	562.00	.3782-01	.4604-01	.5165-01	.56.89	2.151	.4400	578.1	.5571-03			
60	112.50	.98000	563.00	.3827-01	.4660-01	.5229-01	.56.82	2.175	.4405	578.9	.5639-03			
60	112.50	.98000	564.00	.3909-01	.4759-01	.5344-01	.56.84	2.222	.4403	578.6	.5759-03			
60	112.50	.98000	565.00	.3884-01	.4724-01	.5296-01	.57.15	2.220	.4374	574.8	.5717-03			
60	112.50	.98000	566.00	.3768-01	.4582-01	.5139-01	.57.14	2.153	.4375	574.9	.5545-03			
60	112.50	.98000	567.00	.3821-01	.4647-01	.5209-01	.57.19	2.186	.4370	574.2	.5624-03			
60	112.50	.98000	568.00	.3904-01	.4377-01	.57.16	2.186	.4373	574.6	.4724-03				
60	112.50	.98000	569.00	.3148-01	.4295-01	.57.06	1.796	.4383	575.9	.4634-03				

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APC 3.5-178 1H3

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(REVERSE)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 1H3 ET (TRIPS)			EXTERNAL TANK	H/HREF R=0.85	QEF ETU/FT2SEC	QDOT BTU/FT2SEC	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85					
60	135.00	.70000	570.00	.3227-01	.3923-01	.4397-01	57.27	1.848	4.362	573.2	.4748-03
60	135.00	.75000	571.00	.3052-01	.3710-01	.4153-01	57.27	1.748	4.363	573.3	.4490-03
60	135.00	.80000	572.00	.2988-01	.3637-01	.4080-01	56.93	1.701	4.395	577.5	.4401-03
60	135.00	.85000	573.00	.4661-01	.5670-01	.6359-01	57.08	2.661	4.381	575.7	.6862-03
60	135.00	.90000	574.00	.2947-01	.3566-01	.4022-01	56.98	1.679	4.390	576.9	.4339-03
60	151.00	.93500	575.00	.1534	.1863	.2095	57.59	6.834	4.352	569.2	.2255-02
61	157.00	.40000	576.00	.4113-01	.5014-01	.5631-01	56.45	2.322	4.435	581.9	.6055-03
61	157.00	.42500	577.00	.5407-01	.6590-01	.7359-01	56.52	3.056	4.428	581.0	.7962-03
61	157.00	.45000	578.00	.5451-01	.6636-01	.748-01	56.76	3.094	4.405	578.0	.8021-03
61	157.00	.47500	579.00	.4886-01	.5948-01	.6672-01	56.85	2.778	4.396	576.9	.7188-03
61	157.00	.50000	580.00	.5056-01	.6702-01	.7519-01	56.84	3.130	4.398	577.0	.0099-03
61	157.00	.55000	581.00	.2780-01	.3303-01	.3794-01	56.96	1.584	4.386	575.5	.4088-03
61	157.00	.60000	582.00	.3146-01	.3829-01	.4295-01	56.86	1.789	4.396	576.8	.4627-03
61	157.00	.55000	583.00	.3153-01	.3839-01	.4307-01	56.80	1.791	4.402	577.6	.4639-03
61	157.00	.70000	584.00	.3300-01	.4C16-01	.4505-01	56.90	1.878	4.391	576.2	.4853-03
61	157.00	.75000	585.00	.3039-01	.3699-01	.4148-01	56.93	1.730	4.389	575.9	.4470-03
61	157.00	.80000	586.00	.2578-01	.3138-01	.3521-01	56.86	1.466	4.396	576.8	.3793-03
61	157.00	.85000	587.00	.2124-01	.2950-01	.3508-01	56.94	1.780	4.388	575.7	.3565-03
61	157.00	.90000	588.00	.5032-01	.6121-01	.6864-01	57.01	2.869	4.381	574.9	.7398-03
F1	161.00	.42500	589.00	.6555-01	.7989-01	.8970-01	56.50	1.703	4.430	581.3	.9653-03
61	165.00	.40000	589.00	.4189-01	.5107-01	.5736-01	56.42	2.363	4.338	582.3	.6170-03
61	165.00	.50000	590.00	.3348-01	.4074-01	.4570-01	56.89	1.905	4.393	576.4	.4924-03
61	165.00	.70000	591.00	.3353-01	.4031-01	.4578-01	56.86	1.906	4.396	576.8	.4932-03
61	165.00	.90000	592.00	.4969-01	.605-01	.6779-01	56.99	2.832	4.383	575.1	.7305-03
61	180.00	.50000-02	594.00	.6122	.7503	.8457	55.06	33.71	4.568	599.4	.9059-02
61	180.00	.10000-01	596.00	.5427	.6632	.7461	55.80	30.28	4.497	590.1	.8011-02
61	180.00	.45000	597.00	.5640	.6877	.7733	56.41	31.81	4.439	582.5	.8308-02
61	180.00	.80000-01	597.00	.3579	.4357	.4888	56.80	20.33	4.402	577.5	.5265-02
61	180.00	.85000-01	598.00	.2653	.3231	.3627	56.64	15.03	4.416	579.5	.3905-02
61	180.00	.15000	599.00	.9746-01	.1188	.1374	56.50	5.506	4.431	581.4	.1435-02
61	180.00	.26000	600.00	.5189-01	.6319-01	.7092-01	56.59	2.941	4.412	578.9	.7636-03
61	180.00	.25000	601.00	.3672-01	.4471-01	.5017-01	56.74	2.083	4.407	578.3	.5403-03
61	180.00	.30000	602.00	.3661-01	.4488-01	.5040-01	56.43	2.077	4.437	582.2	.5053-03
61	180.00	.35000	603.00	.3431-01	.4182-01	.4696-01	56.49	1.938	4.431	581.5	.4819-03
61	180.00	.37500	604.00	.3272-01	.3988-01	.4478-01	56.51	1.849	4.429	581.2	.4310-03
61	180.00	.40000	605.00	.2927-01	.3567-01	.4004-01	56.58	1.656	4.422	580.3	.7785-03
61	180.00	.42500	606.00	.5298-01	.6443-01	.7234-01	56.55	2.990	4.425	580.7	.2284-02
61	180.00	.45000	607.00	.1551	.1690	.2122	56.60	9.780	4.421	580.1	.1021-02
61	180.00	.47500	608.00	.6340-01	.6845-01	.9487-01	56.67	3.932	4.414	579.2	.2282-03
61	180.00	.50000	609.00	.1550-01	.1089-01	.2120-01	56.66	8785	4.415	579.3	.1248-02
61	180.00	.52500	610.00	.8482-01	.1033	.1155	56.72	4.011	4.409	578.6	.9591-03
61	180.00	.55000	611.00	.6117	.7937	.8907-01	56.71	3.636	4.410	578.7	.6879-03
61	180.00	.57500	612.00	.4674-01	.5693-01	.6339-01	56.70	2.650	4.411	578.8	

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ARC 3.5-178 IH3

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(REIT12)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 ET (TRIPS)		EXTERNAL TANK	HM/HF	TW DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9				
61	180.00	.80000	613.00	.4299-01	.5237-01	.5879-01	.56.62	2.434	.4419
61	180.00	.62500	614.00	.4576-01	.5576-01	.6260-01	.56.57	2.589	.4423
61	180.00	.65000	615.00	.4875-01	.5941-01	.6670-01	.56.56	2.757	.4424
61	180.00	.67100	616.00	.4799-01	.5843-01	.6556-01	.56.90	2.726	.4402
61	180.00	.70000	617.00	.4683-01	.5700-01	.6394-01	.56.88	2.664	.4394
61	180.00	.75000	618.00	.4623-01	.5624-01	.6308-01	.56.98	2.654	.4384
61	180.00	.80000	619.00	.45C+0	.5485-01	.6156-01	.56.71	2.554	.4410
61	180.00	.85000	620.00	.4668-01	.5685-01	.6380-01	.56.72	2.648	.4410
61	180.00	.90000	621.00	.6751-01	.8218-01	.9219-01	.56.84	3.838	.4397
61	180.00	.93700	622.00	.9178-01	.1116	.1251	.57.11	5.242	.4372
61	180.00	.97500	623.00	.8704-02	.1059-01	.1188-01	.56.98	.4959	.4384
61	194.00	.80000-01	624.00	.2020	.2455	.2752	.57.24	11.56	.4359
61	190.00	.15000	625.00	.7317-01	.8096-01	.9972-01	.57.19	4.84	.4365
61	196.00	.30000	626.00	.2888-01	.3512-01	.3937-01	.57.13	1.650	.4369
61	196.00	.50000	627.00	.4830-01	.5871-01	.6579-01	.57.27	2.766	.4357
61	196.00	.70000	628.00	.2196-01	.2666-01	.2986-01	.57.54	1.263	.4331
61	197.00	.90000	629.00	.3079-01	.3737-01	.4185-01	.57.60	1.773	.4325
61	203.00	.15000	630.00	.9598-01	.1166	.1306	.57.44	5.513	.4340
61	208.00	.40000	631.00	.3709-01	.4503-01	.5042-01	.57.59	2.136	.4326
61	208.00	.60000	632.00	.3377-01	.4099-01	.4590-01	.57.60	1.945	.4325
6.	208.00	.80000	633.00	.2988-01	.3629-01	.4063-01	.57.53	1.779	.4332
61	208.00	.93700	634.00	.9175-01	.1114	.1247	.57.61	5.286	.4324
61	216.00	.40000	635.00	.4076-01	.4943-01	.5541-01	.57.59	2.347	.4326
61	216.00	.50000	636.00	.3310-01	.4018-01	.4499-01	.57.61	1.907	.4324
61	216.00	.70000	637.00	.2952-01	.3585-01	.4015-01	.57.50	1.697	.4335
61	222.50	.33500	638.00	.3422-01	.4163-01	.4668-01	.57.01	1.971	.4381
61	229.00	.40000	639.00	.4241-01	.5150-01	.5767-01	.57.51	2.439	.4334
61	229.00	.60000	640.00	.3971-01	.4816-01	.5389-01	.57.84	2.296	.4302
61	229.00	.80000	641.00	.2956-01	.3585-01	.4013-01	.57.81	1.709	.4705

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(REIT13)

## EXTERNAL TANK

ARC 3.5-178 1H3 ET (TRIPS)

PAGE

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RN/L = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	P0 PSIA	TO DEG. R	HO BTU LBH	RS FT	RHOEL SLUG FT2SEC	ALPHA DEG.
62	5.300	.1555-07	137.5	1373.	336.5	.1750-01	.2705	.0000
63	5.300	.1507-07	123.1	1307.	319.2	.1750-01	.2495	.0000

## \*\*\*TEST CONDITIONS\*\*\*

RN/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	P0 PSIA	TO DEG. R	HO BTU LBH	RS FT	RHOEL SLUG FT2SEC	ALPHA DEG.
501.00		1471	1178	.8835-01	.1071	.1997	32.43	.755	.3202
502.00		1471	1178	.8835-01	.1071	.1997	32.43	.755	.4285
503.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.572.4
504.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.570.1
505.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.4267
506.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.567.7
507.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.2371-02
508.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.2119-02
509.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.8846-03
510.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.8119-03
511.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.8336-03
512.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.848-03
513.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.8097-03
514.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.8204-03
515.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.8218-03
516.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.8197-03
517.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.8155-03
518.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.5419-03
519.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.4210
520.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.559.1
521.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.6421-03
522.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.7960-03
523.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.9274-03
524.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.555.6
525.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.8488-03
526.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.8367-03
527.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.8417-03
528.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.8242-03
529.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.8415-03
530.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.8288-03
531.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.553.2
532.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.559.4
533.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.4205
534.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.559.4
535.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.4182
536.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.556.4
537.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.5840-03
538.00		1471	1178	.8835-01	.1070	.1997	32.43	.755	.5861-03

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	X/L	PHI	H/HREF R=1.0	H/HREF R=0.9	P0 PSIA	TO DEG. R	QREF BTU FT2SEC	QDT B.U. FT2SEC	HW/HT	TW DEG. R	STN NO R=0.9
63	.00000	.40000-01	501.00	1471	.1178	.1997	32.43	.755	.4302	.572.4	.5350-02
63	.00000	.80000-01	502.00	1471	.1178	.1997	32.43	.755	.4285	.570.1	.2371-02
63	.00000	.15000	503.00	1471	.1178	.1997	32.43	.755	.4267	.567.7	.2119-02
63	.00000	.40000	504.00	1471	.1178	.1997	32.43	.755	.4200	.558.8	.8846-03
63	.00000	.60000	505.00	1471	.1178	.1997	32.43	.755	.4176	.555.6	.8119-03
63	.00000	.80000	506.00	1471	.1178	.1997	32.43	.755	.4167	.554.4	.8336-03
63	.45.000	.45.000	507.00	1471	.1178	.1997	32.43	.755	.4197	.558.4	.848-03
63	.45.000	.50000	508.00	1471	.1178	.1997	32.43	.755	.4174	.555.3	.8097-03
63	.45.000	.60000	509.00	1471	.1178	.1997	32.43	.755	.4168	.554.5	.8204-03
63	.45.000	.70000	510.00	1471	.1178	.1997	32.43	.755	.4165	.554.1	.8218-03
63	.45.000	.80000	511.00	1471	.1178	.1997	32.43	.755	.4160	.553.5	.8197-03
63	.45.000	.90000	512.00	1471	.1178	.1997	32.43	.755	.4144	.551.4	.8155-03
63	.67.500	.30000	513.00	1471	.1178	.1997	32.43	.755	.4210	.560.1	.5419-03
63	.67.500	.35000	514.00	1471	.1178	.1997	32.43	.755	.4202	.559.1	.6421-03
63	.67.500	.40000	515.00	1471	.1178	.1997	32.43	.755	.4189	.557.3	.7960-03
63	.67.500	.50000	516.00	1471	.1178	.1997	32.43	.755	.4176	.555.6	.9274-03
63	.67.500	.60000	517.00	1471	.1178	.1997	32.43	.755	.4170	.554.9	.8488-03
63	.67.500	.65000	518.00	1471	.1178	.1997	32.43	.755	.4181	.556.3	.8417-03
63	.67.500	.70000	519.00	1471	.1178	.1997	32.43	.755	.4170	.554.8	.8242-03
63	.67.500	.75000	520.00	1471	.1178	.1997	32.43	.755	.4165	.554.2	.8415-03
63	.67.500	.80000	521.00	1471	.1178	.1997	32.43	.755	.4171	.555.0	.8288-03
63	.67.500	.90000	522.00	1471	.1178	.1997	32.43	.755	.4158	.553.2	.8367-03
63	.90.000	.20000	523.00	1471	.1178	.1997	32.43	.755	.4205	.559.4	.1002-02
63	.90.000	.25000	524.00	1471	.1178	.1997	32.43	.755	.4182	.556.4	.5721-03
63	.90.000	.27500	525.00	1471	.1178	.1997	32.43	.755	.4203	.559.2	.5840-03
63	.90.000	.30000	526.00	1471	.1178	.1997	32.43	.755	.4205	.559.4	.5861-03

DATE 24 JAN 75		ARC 3.5-178 1H3		ARC 3.5-178 1H3 ET (TRIPS)		EXTERNAL TANK		HW/HT		TW DEG. R		STN NO R=0.9		
R <sup>11</sup> NUMBER	Phi	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ SEC	QDOT BTU/ SEC	F125EC	F12SEC	.4197	.4192	.4185	.4179
63	90.000	527.00	527.00	.2345-01	.2834-01	.3163-01	32.94	.7726	.4197	.558.4	.6278-03	.7066-03	.8266-03	.9189-03
63	90.000	528.00	528.00	.2640-01	.3190-01	.3560-01	32.97	.8705	.4192	.557.7	.556.8	.556.8	.556.8	.556.8
63	90.000	529.00	529.00	.3090-01	.3731-01	.4164-01	33.01	1.020	.4185	.556.0	.8771-03	.8771-03	.8771-03	.8771-03
63	90.000	530.00	530.00	.3435-01	.4147-01	.4627-01	33.04	1.135	.4179	.556.0	.8765-03	.8765-03	.8765-03	.8765-03
63	90.000	531.00	531.00	.3445-01	.4123-01	.4601-01	33.05	1.129	.4178	.555.9	.9136-03	.9136-03	.9136-03	.9136-03
63	90.000	532.00	532.00	.3302-01	.3986-01	.4447-01	33.08	1.092	.4173	.555.2	.8832-03	.8832-03	.8832-03	.8832-03
63	90.000	533.00	533.00	.3279-01	.3959-01	.4417-01	33.04	1.083	.4179	.556.0	.8771-03	.8771-03	.8771-03	.8771-03
63	90.000	534.00	534.00	.3276-01	.3957-01	.4415-01	33.00	1.081	.4186	.557.0	.8260-03	.8260-03	.8260-03	.8260-03
63	90.000	535.00	535.00	.3089-01	.3728-01	.4159-01	33.08	1.022	.4173	.555.2	.9139-03	.9139-03	.9139-03	.9139-03
63	90.000	536.00	536.00	.3119-01	.3764-01	.4198-01	33.11	1.032	.4169	.554.6	.8115-03	.8115-03	.8115-03	.8115-03
63	90.000	537.00	537.00	.3034-01	.3663-01	.4086-01	33.08	1.004	.4173	.555.2	.8155-03	.8155-03	.8155-03	.8155-03
63	90.000	538.00	538.00	.3650-01	.3681-01	.4105-01	33.12	1.010	.4166	.554.3	.8240-03	.8240-03	.8240-03	.8240-03
63	90.000	539.00	539.00	.3002-01	.3719-01	.4148-01	33.14	1.021	.4162	.553.8	.5372-03	.5372-03	.5372-03	.5372-03
63	90.000	540.00	540.00	.2007-01	.2123-01	.2707-01	32.92	.6607	.4200	.558.8	.558.6	.558.6	.558.6	.558.6
63	112.50	541.00	541.00	.2095-01	.2521-01	.2814-01	32.93	.6871	.4198	.558.6	.558.6	.558.6	.558.6	.558.6
63	112.50	542.00	542.00	.2113-01	.2903-01	.3290-01	32.95	.7093	.4195	.558.1	.6562-03	.6562-03	.6562-03	.6562-03
63	112.50	543.00	543.00	.2152-01	.2962-01	.3306-01	32.91	.8079	.4195	.558.1	.7793-03	.7793-03	.7793-03	.7793-03
63	112.50	544.00	544.00	.2912-01	.2518-01	.3926-01	32.96	.9598	.4193	.557.9	.8915-03	.8915-03	.8915-03	.8915-03
63	112.50	545.00	545.00	.3331-01	.4024-01	.4492-01	32.96	1.098	.4194	.558.0	.8827-03	.8827-03	.8827-03	.8827-03
63	112.50	546.00	546.00	.316.00	.3148-01	.3241-01	32.97	1.087	.4192	.557.7	.9160-03	.9160-03	.9160-03	.9160-03
63	112.50	547.00	547.00	.3423-01	.4135-01	.4614-01	32.98	1.229	.4190	.557.4	.8433-03	.8433-03	.8433-03	.8433-03
63	112.50	548.00	548.00	.315-01	.3807-01	.4248-01	32.98	1.039	.4190	.557.5	.8302-03	.8302-03	.8302-03	.8302-03
63	112.50	549.00	549.00	.3102-01	.3748-01	.4183-01	32.95	1.022	.4195	.558.1	.7930-03	.7930-03	.7930-03	.7930-03
63	112.50	550.00	550.00	.4057-01	.4896-01	.5461-01	33.01	1.343	.4167	.554.4	.1085-02	.1085-02	.1085-02	.1085-02
63	112.50	551.00	551.00	.2981-01	.3579-01	.4374-01	33.03	.9792	.4181	.556.3	.6306-03	.6306-03	.6306-03	.6306-03
63	112.50	552.00	552.00	.2954-01	.3567-01	.4015-01	33.05	.9852	.4178	.555.8	.7973-03	.7973-03	.7973-03	.7973-03
63	112.50	553.00	553.00	.3346-01	.4135-01	.4614-01	33.04	.9763	.4179	.556.0	.7904-03	.7904-03	.7904-03	.7904-03
63	112.50	554.00	554.00	.315-01	.3807-01	.4248-01	32.98	1.039	.4190	.557.5	.8946-03	.8946-03	.8946-03	.8946-03
63	112.50	555.00	555.00	.3102-01	.3748-01	.4183-01	32.95	1.022	.4195	.558.1	.8320-03	.8320-03	.8320-03	.8320-03
63	112.50	556.00	556.00	.2359-01	.2846-01	.3174-01	33.11	.7820	.4160	.553.5	.4987-03	.4987-03	.4987-03	.4987-03
63	112.50	557.00	557.00	.2567-01	.3217-01	.3568-01	33.17	.8894	.4158	.553.3	.5375-03	.5375-03	.5375-03	.5375-03
63	112.50	558.00	558.00	.2954-01	.3567-01	.3980-01	33.04	.9763	.4179	.556.0	.9891-03	.9891-03	.9891-03	.9891-03
63	112.50	559.00	559.00	.3346-01	.4037-01	.4502-01	33.16	1.109	.4160	.553.5	.8433-03	.8433-03	.8433-03	.8433-03
63	112.50	560.00	560.00	.315-01	.3807-01	.4248-01	32.98	1.039	.4190	.557.5	.8433-03	.8433-03	.8433-03	.8433-03
63	112.50	561.00	561.00	.2981-01	.3579-01	.4015-01	33.05	.9852	.4178	.555.8	.7973-03	.7973-03	.7973-03	.7973-03
63	112.50	562.00	562.00	.2954-01	.3567-01	.3980-01	33.04	.9763	.4179	.556.0	.7904-03	.7904-03	.7904-03	.7904-03
63	112.50	563.00	563.00	.3346-01	.4037-01	.4502-01	33.16	1.109	.4160	.553.5	.8433-03	.8433-03	.8433-03	.8433-03
63	112.50	564.00	564.00	.315-01	.3807-01	.4248-01	32.98	1.039	.4190	.557.5	.8433-03	.8433-03	.8433-03	.8433-03
63	123.00	565.00	565.00	.2981-01	.3579-01	.4015-01	33.05	.9852	.4178	.555.8	.7973-03	.7973-03	.7973-03	.7973-03
63	123.00	566.00	566.00	.2954-01	.3567-01	.3980-01	33.04	.9763	.4179	.556.0	.7904-03	.7904-03	.7904-03	.7904-03
63	123.00	567.00	567.00	.3346-01	.4037-01	.4502-01	33.16	1.109	.4160	.553.5	.8433-03	.8433-03	.8433-03	.8433-03
63	123.00	568.00	568.00	.315-01	.3807-01	.4248-01	32.98	1.039	.4190	.557.5	.8433-03	.8433-03	.8433-03	.8433-03
63	123.00	569.00	569.00	.2981-01	.3579-01	.4015-01	33.05	.9852	.4178	.555.8	.7973-03	.7973-03	.7973-03	.7973-03
63	123.00	570.00	570.00	.3346-01	.4037-01	.4502-01	33.16	1.109	.4160	.553.5	.8433-03	.8433-03	.8433-03	.8433-03
63	123.00	571.00	571.00	.315-01	.3807-01	.4248-01	32.98	1.039	.4190	.557.5	.8433-03	.8433-03	.8433-03	.8433-03
63	123.00	572.00	572.00	.2981-01	.3579-01	.4015-01	33.05	.9852	.4178	.555.8	.7973-03	.7973-03	.7973-03	.7973-03
63	123.00	573.00	573.00	.3346-01	.4037-01	.4502-01	33.16	1.109	.4160	.553.5	.8433-03	.8433-03	.8433-03	.8433-03
63	123.00	574.00	574.00	.315-01	.3807-01	.4248-01	32.98	1.039	.4190	.557.5	.8433-03	.8433-03	.8433-03	.8433-03
63	123.00	575.00	575.00	.2981-01	.3579-01	.4015-01	33.05	.9852	.4178	.555.8	.7973-03	.7973-03	.7973-03	.7973-03
63	123.00	576.00	576.00	.3346-01	.4037-01	.4502-01	33.16	1.109	.4160	.553.5	.8433-03	.8433-03	.8433-03	.8433-03
63	123.00	577.00	577.00	.315-01	.3807-01	.4248-01	32.98	1.039	.4190	.557.5	.8433-03	.8433-03	.8433-03	.8433-03
63	123.00	578.00	578.00	.2981-01	.3579-01	.4015-01	33.05	.9852	.4178	.555.8	.7973-03	.7973-03	.7973-03	.7973-03
63	123.00	579.00	579.00	.3346-01	.4037-01	.4502-01	33.16	1.109	.4160	.553.5	.8433-03	.8433-03	.8433-03	.8433-03
63	123.00	580.00	580.00	.315-01	.3807-01	.4248-01	32.98	1.039	.4190	.557.5	.8433-03	.8433-03	.8433-03	.8433-03
63	123.00	581.00	581.00	.2981-01	.3579-01	.4015-01	33.05	.9852	.4178	.555.8	.7973-03	.7973-03	.7973-03	.7973-03
63	123.00	582.00	582.00	.3346-01	.4037-01	.4502-01	33.16	1.109	.4160	.553.5	.8433-03	.8433-03	.8433-03	.8433-03
63	123.00	583.00	583.00	.315-01	.3807-01	.4248-01	32.98	1.039	.4190	.557.5	.8433-03	.8433-03	.8433-03	.8433-03
63	123.00	584.00	584.00	.2981-01	.3579-01	.4015-01	33.05	.9852	.4178	.555.8	.7973-03	.7973-03	.7973-03	.7973-03
63	123.00	585.00	585.00	.3346-01	.4037-01	.4502-01	33.16	1.109	.4160	.553.5	.8433-03	.8433-03	.8433-03	.8433-03
63	123.00	586.00	586.00	.315-01	.3807-01	.4248-01	32.98	1.039	.4190	.557.5	.8433-03	.8433-03	.8433-03	.8433-03
63	123.00	587.00	587.00	.2981-01	.3579-01	.4015-01	33.05	.9852	.4178	.555.8	.7973-03	.7973-03	.7973-03	.7973-03
63	123.00	588.00	588.00	.3346-01	.4037-01	.4502-01	33.16	1.109	.4160	.553.5	.8433-03	.8433-03	.8433-03</td	

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ARC 3.5-178 IH3

PAGE 74

(REFIT3)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 ET (TRIPS)			EXTERNAL TANK	QDOT BTU/SEC	TH DEG. R	STN NO R-0.9
				H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85				
63	135.00	.70000	570.00	.2690-01	.3248-01	.3622-01	33.08	.8699	.4173	.555.2
63	135.00	.75000	571.00	.2619-01	.3161-01	.3522-01	33.06	.8658	.4176	.555.6
63	135.00	.80000	572.00	.2741-01	.3310-01	.3693-01	33.02	.9051	.4183	.556.5
63	135.00	.85000	573.00	.4595-01	.5544-01	.6183-01	33.14	1.523	.4163	.553.8
63	135.00	.90000	574.00	.2821-01	.3403-01	.3795-01	33.17	.9357	.4157	.553.1
63	151.00	.93500	575.00	.1603	.1938	.2159	33.33	5.358	.4130	.549.5
62	157.00	.40000	576.00	.2653-01	.3185-01	.3540-01	37.95	1.007	.4018	.563.5
62	157.00	.42500	577.00	.4242-01	.5090-01	.5656-01	38.05	1.614	.4003	.561.3
62	157.00	.45000	578.00	.5456-01	.6542-01	.7265-01	38.24	2.086	.3975	.557.3
62	157.00	.47500	579.00	.4509-01	.5405-01	.6000-01	38.31	1.728	.3963	.555.7
62	157.00	.50000	580.00	.4563-01	.5469-01	.6071-01	38.33	1.749	.3961	.555.4
62	157.00	.55000	581.00	.2139-01	.2563-01	.2844-01	38.41	.8217	.3948	.553.7
62	157.00	.60000	582.00	.1875-01	.2246-01	.2493-01	38.39	.7197	.3951	.554.0
62	157.00	.65000	583.00	.2006-01	.2103-01	.2667-01	38.42	.7707	.3947	.553.5
62	157.00	.70000	584.00	.2549-01	.3050-01	.3323-01	38.63	.9846	.3915	.549.0
62	157.00	.75000	585.00	.2571-01	.3077-01	.3412-01	38.66	.9941	.3913	.548.3
62	157.00	.80000	586.00	.2184-01	.2615-01	.2902-01	38.55	.8412	.3933	.551.5
62	157.00	.85000	587.00	.2119-01	.2536-01	.2801-01	38.57	.8171	.3924	.550.3
62	157.00	.90000	588.00	.5171-01	.6187-01	.6862-01	38.64	.998	.3914	.548.8
62	151.00	.42500	589.00	.6145-01	.7375-01	.8196-01	38.02	2.336	.4008	.562.0
62	155.00	.40000	593.00	.2782-01	.3342-01	.3715-01	37.92	1.055	.4023	.564.1
62	165.00	.50000	590.00	.2704-01	.3240-01	.3597-01	38.35	1.037	.3957	.554.9
62	165.00	.70000	591.00	.2380-01	.2849-01	.3160-01	38.60	.9168	.3920	.549.6
62	165.00	.80000	592.00	.3787-01	.4532-01	.5026-01	38.63	1.463	.3915	.548.9
62	180.00	.00000	594.00	.6638	.8014	.8940	36.92	24.51	.4175	.585.4
62	180.00	.50000-02	595.00	.4966	.5935	.6669	37.25	18.50	.4125	.578.5
62	180.00	.10000-01	596.00	.5225	.6288	.7000	37.51	19.60	.4085	.572.8
62	180.00	.180.00	597.00	.1969	.2365	.2630	37.86	7.454	.4032	.565.4
62	180.00	.30000-01	598.00	.1518	.1823	.2026	37.92	5.756	.4023	.564.1
62	180.00	.48000-01	599.00	.7953-01	.9550-01	.1062	37.94	3.018	.4019	.563.6
62	180.00	.15000	600.00	.3140-01	.3762-01	.4176-01	38.37	1.205	.3955	.554.5
62	180.00	.20000	601.00	.1447-01	.1724-01	.1924-01	38.44	.5564	.3944	.553.3
62	180.00	.25000	602.00	.1294-01	.1553-01	.1725-01	38.05	.4923	.4003	.561.3
62	180.00	.30000	603.00	.1820-01	.2124-01	.2426-01	38.08	.6930	.3999	.560.8
62	180.00	.35000	604.00	.2106-01	.2527-01	.2807-01	38.10	.8023	.3996	.560.4
62	180.00	.37500	605.00	.1854-01	.2225-01	.2471-01	38.12	.7067	.3993	.559.9
62	180.00	.40000	606.00	.4732-01	.5676-01	.6306-01	38.14	1.804	.3990	.559.5
62	180.00	.42500	607.00	.1293	.1550	.1721	38.29	4.951	.3967	.556.2
62	180.00	.45000	608.00	.7039-01	.8436-01	.9366-01	38.32	2.697	.3963	.555.7
62	180.00	.50000	609.00	.1209-01	.1449-01	.1609-01	38.33	.4635	.3961	.555.4
62	180.00	.52500	610.00	.4858-01	.5821-01	.6461-01	38.36	1.864	.3955	.554.6
62	180.00	.55000	611.00	.5688-01	.6815-01	.7564-01	38.38	2.183	.3953	.554.3
62	180.00	.57500	612.00	.4236-01	.5075-01	.5632-01	38.40	1.626	.3950	.553.9

PRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

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ARC 3-5-178 1H3

PAGE 75

(REFIT13)

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=C.9	ARC 3-5-178 1H3 ET (TRIPS)	EXTERNAL TANK	HW/HT	TW DEG. R	STN NO R=0.9
62	180.00	.60000	613.00	.3680-01	.4410-01	.4895-01 R=0.85	QREF BTU/ FT2SEC	.3837 1.412	.3955	.554.6 .9558-03
62	180.00	.62500	614.00	.3530-01	.4230-01	.4695-01 R=0.85	QDOT BTU/ FT2SEC	.3837 1.355	.3954	.554.5 .9168-03
62	180.00	.65000	615.00	.3517-01	.4214-01	.4677-01 R=0.85	QREF BTU/ FT2SEC	.3837 1.350	.3951	.554.0 .9133-03
62	180.00	.67500	616.00	.3580-01	.4287-01	.4756-01 R=0.85	QDOT BTU/ FT2SEC	.3837 1.378	.3936	.552.0 .9292-03
62	180.00	.70000	617.00	.3543-01	.4240-01	.4703-01 R=0.85	QREF BTU/ FT2SEC	.3837 1.369	.3916	.549.1 .9193-03
62	180.00	.75000	618.00	.3472-01	.4154-01	.4606-01 R=0.85	QDOT BTU/ FT2SEC	.3837 1.343	.3906	.547.0 .9006-03
62	180.00	.80000	619.00	.3331-01	.3990-01	.4427-01 R=0.85	QREF BTU/ FT2SEC	.3837 1.281	.3940	.552.5 .8648-03
62	180.00	.85000	620.00	.3330-01	.3988-01	.4425-01 R=0.85	QDOT BTU/ FT2SEC	.3837 1.281	.3938	.552.2 .8645-03
62	180.00	.90000	621.00	.3164-01	.3788-01	.4202-01 R=0.85	QREF BTU/ FT2SEC	.3837 1.220	.3927	.550.7 .8212-03
62	180.00	.93700	622.00	.9745-01	.1166-01	.1293-01 R=0.85	QDOT BTU/ FT2SEC	.3837 1.267	.3908	.548.0 .2528-02
62	180.00	.97500	623.00	.9724-02	.1163-01	.1290-01 R=0.85	QREF BTU/ FT2SEC	.3837 1.2765	.3908	.547.1 .2522-03
62	194.00	.89000-01	624.00	.104E	.1254	.1393-01 R=0.85	QDOT BTU/ FT2SEC	.3837 1.3997	.3979	.557.9 .2718-02
E2	195.00	.15000	625.00	.5921-01	.7099-01	.7862-01 R=0.85	QREF BTU/ FT2SEC	.3837 1.266	.3970	.556.7 .1538-02
E2	196.00	.30030	626.00	.2330-01	.2791-01	.3098-01 R=0.85	QDOT BTU/ FT2SEC	.3837 1.264	.3950	.553.8 .6050-03
62	196.00	.50000	627.00	.4245-01	.5080-01	.5634-01 R=0.85	QREF BTU/ FT2SEC	.3837 1.639	.3950	.549.5 .1101-02
62	196.00	.76300	628.00	.1591-01	.1902-01	.2108-01 R=0.85	QDOT BTU/ FT2SEC	.3837 1.6179	.3883	.544.5 .4124-02
62	197.00	.90000	629.00	.3324-01	.3975-01	.4407-01 R=0.85	QREF BTU/ FT2SEC	.3837 1.288	.3897	.546.5 .8619-03
52	208.00	.40000	630.00	.7304-01	.8755-01	.9720-01 R=0.85	QDOT BTU/ FT2SEC	.3837 1.2797	.3965	.556.1 .1897-02
E2	209.00	.60000	631.00	.3279-01	.3923-01	.4350-01 R=0.85	QREF BTU/ FT2SEC	.3837 1.268	.3909	.548.1 .8505-03
62	208.00	.60000	632.00	.2350-01	.2811-01	.3116-01 R=0.85	QDOT BTU/ FT2SEC	.3837 1.74	.3899	.546.7 .6095-03
62	208.00	.80000	633.00	.2365-01	.2829-01	.3137-01 R=0.85	QREF BTU/ FT2SEC	.3837 1.9105	.3899	.546.7 .6134-03
62	208.00	.80000	634.00	.8738-01	.1045	.1159-01 R=0.85	QDOT BTU/ FT2SEC	.3837 1.9163	.3899	.546.7 .2266-02
62	216.00	.40000	635.00	.3539-01	.4233-01	.4694-01 R=0.85	QREF BTU/ FT2SEC	.3837 1.3868	.3908	.547.5 .9179-03
62	216.00	.50000	636.00	.2443-01	.2922-01	.3240-01 R=0.85	QDOT BTU/ FT2SEC	.3837 1.3773	.3904	.546.9 .6336-03
62	216.00	.70000	637.00	.2257-01	.2698-01	.2990-01 R=0.85	QREF BTU/ FT2SEC	.3837 1.8769	.3900	.544.2 .5850-03
62	222.50	.33500	638.00	.1472-01	.1764-01	.1958-01 R=0.85	QDOT BTU/ FT2SEC	.3837 1.5638	.3964	.555.8 .3823-03
62	229.00	.40000	639.00	.3984-01	.4768-01	.5289-01 R=0.85	QREF BTU/ FT2SEC	.3837 1.1537	.3921	.549.8 .1034-02
62	229.00	.60000	640.00	.2995-01	.3584-01	.3974-01 R=0.85	QDOT BTU/ FT2SEC	.3837 1.158	.3909	.548.1 .7769-03
62	229.00	.80000	641.00	.2139-01	.2559-01	.2837-01 R=0.85	QREF BTU/ FT2SEC	.3837 1.8271	.3909	.554.8-03

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ARC 3.5-178 1H3

TANK

08C 3 5-178 INT 0+1 S EXTERNAL TANK

REF ID: G

### PARAMETRIC DATA

***TEST CONDITIONS***						
RUN NUMBER	MACH	PN/L PER FT	PO PSIA	TO DEG. R	HC BTU	LBH
72	5.300	.4987-.07 5000-.07	403.9	1300.	317.5	27.5
72	5.200	.4987-.07 5000-.07	405.9	1200.	317.5	27.5

TEST CONDITIONS...					RHOVEL SLUG/ FT2SEC	ALPHA DEG.
DO IA	TO DEG.	HC BTU/ LBM	RS FT			
9	1300.	317.5	.1750-01	.8213	-5.000	
9	1201	317.5	.1750-01	.8213	-5.000	
9	1200	317.5	.1750-01	.8213	-5.000	

SIGHTS DATA

RUN NUMBER	PHI	X/L	T/C NO	TEST DATA***				STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	QREF BTU/ FT2SEC	QREF BTU/ FT2SEC	
72	.00000	.40000-01	501.00	.1051	.1290	.1455	.55.13	.4596
72	.00000	.80000-01	502.00	.5847-01	.7164-01	.8079-01	.55.49	.1568-02
72	.00000	.15000	503.00	.2043-01	.2499-01	.2812-01	.55.97	.8713-03
72	.00000	.40000	504.00	.3964-01	.4826-01	.5415-01	.57.16	.3040-03
72	.00000	.60000	505.00	.4870-01	.5916-01	.6628-01	.57.77	.5875-03
72	.00000	.00000	506.00	.516-01	.3843-01	.4302-01	.58.10	.4561
72	.00000	.40000	507.00	.4396-01	.5347-01	.5996-01	.57.42	.4516
72	.00000	.50000	508.00	.2348-01	.2855-01	.3199-01	.57.61	.592.6
72	.00000	.60000	509.00	.2375-01	.2886-01	.3233-01	.57.68	.582.6
72	.00000	.70000	510.00	.2703-01	.3276-01	.3664-01	.58.45	.582.6
72	.00000	.80000	511.00	.3183-01	.3864-01	.4327-01	.57.96	.582.6
72	.00000	.90000	512.00	.3984-01	.4834-01	.5411-01	.58.10	.582.6
72	.00000	.30000	513.00	.4010-01	.4896-01	.5505-01	.56.39	.582.6
72	.00000	.35000	514.00	.4882	.1809	.2034-01	.56.49	.582.6
72	.00000	.40000	515.00	.2982	.3577-01	.4018-01	.56.77	.582.6
72	.00000	.50000	516.00	.5792-02	.7032-02	.7875-02	.58.15	.582.6
73	.00000	.60000	517.00	.5255-02	.6377-02	.7138-02	.58.32	.3368
73	.00000	.65000	518.00	.2011-01	.2440-01	.2732-01	.58.32	.3065
73	.00000	.70000	519.00	.1627-01	.1971-01	.2209-01	.58.72	.3173
73	.00000	.75000	520.00	.2353-01	.2353-01	.3185-01	.58.89	.4275
73	.00000	.80000	521.00	.2368-01	.2870-01	.3210-01	.58.64	.4259
73	.00000	.90000	522.00	.3317-01	.4017-01	.4490-01	.58.86	.4282
73	.00000	.20000	523.00	.5138-01	.6232-01	.6974-01	.58.45	.4261
73	.00000	.25000	524.00	.3691-01	.4476-01	.5009-01	.58.46	.7576-03
73	.00000	.27500	525.00	.3723-01	.4527-01	.5075-01	.57.72	.5442-03
73	.00000	.30000	526.00	.3723-01	.4527-01	.5075-01	.57.72	.5502-03

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ARC 3.5-178 IH3

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(REIT19)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 O+T+S	EXTERNAL TANK	MM/HT	TH DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QDOT BTU/FT2SEC	
73	90.000	.32300	527.00	.3251	.3959	.4443	57.27	.4811.02
73	90.000	.35000	528.00	.2028	.2464	.2761	57.91	.2995.02
73	90.000	.40000	529.00	.6922-01	.8407-01	.9418-01	58.01	.1022.02
73	90.000	.45000	530.00	.4089-01	.5934-01	.6644-01	58.28	.7214.03
73	90.000	.50000	531.00	.3782-01	.4589-01	.5137-01	58.35	.5579.03
73	90.000	.55000	532.00	.3847-01	.4665-01	.5220-01	58.47	.5672.03
73	90.000	.60000	533.00	.4080-01	.4947-01	.5535-01	58.48	.6015.03
73	90.000	.65000	534.00	.6513-01	.7898-01	.8837-01	58.50	.9602.03
73	90.000	.70000	535.00	.8396-01	.1017	.1137	58.85	.1237.02
73	90.000	.75000	536.00	.8666-01	.1049	.1173	58.97	.564.6
73	90.000	.80000	537.00	.7766-01	.9422-01	.1055	58.36	.1276.02
73	90.000	.85000	538.00	.7771-01	.9412-01	.1052	58.81	.1145.02
73	90.000	.90000	539.00	.7282-01	.8817-01	.9835-01	58.92	.4256.02
73	112.50	.27500	540.00	.4344-01	.5273-01	.5904-01	58.21	.1072.02
73	112.50	.30000	541.00	.4232-01	.5139-01	.5755-01	58.12	.6410.03
73	112.50	.32500	542.00	.8552-01	.1038	.1163	58.14	.6247.03
73	112.50	.35000	543.00	.2282	.2769	.3099	58.31	.1262.02
73	112.50	.40000	544.00	.9131-01	.1107	.1239	58.45	.3366.02
73	112.50	.45000	545.00	.7855-01	.9523-01	.1065	58.55	.1346.02
73	112.50	.50000	546.00	.6694-01	.8116-01	.9079-01	58.57	.1158.02
73	112.50	.55000	547.00	.7470-01	.9055-01	.1013	58.61	.9868.03
73	112.50	.60000	548.00	.9332-01	.1131	.1265	58.66	.1101.02
73	112.50	.65000	549.00	.9492-01	.1151	.1287	58.61	.1375.02
73	112.50	.70000	550.00	.1094	.1325	.1481	58.91	.1399.02
73	112.50	.75000	551.00	.1095	.1325	.1481	58.94	.1611.02
73	112.50	.80000	552.00	.9541-01	.1156	.1293	58.71	.563.5
73	112.50	.85000	553.00	.7938-01	.9692-01	.1084	58.68	.1612.02
73	112.50	.90000	554.00	.8175-01	.9826-01	.1093	58.69	.4286.02
73	123.00	.82500	555.00	.1326	.1607	.1796	58.82	.563.5
73	123.00	.85000	556.00	.5138-01	.6219-01	.6950-01	59.33	.1424.02
73	123.00	.87500	557.00	.9770-01	.1183	.1323	54.80	.565.3
73	123.00	.90000	558.00	.1059	.1283	.1435	58.76	.1439.02
73	123.00	.92500	559.00	.2275	.2756	.3083	58.70	.1560.02
73	123.00	.95000	560.00	.1059	.1283	.1434	58.82	.3352.02
73	123.00	.32500	561.00	.5036-01	.6110-01	.6840-01	58.32	.1560.02
73	135.00	.35000	562.00	.7358-01	.8925-01	.9908-01	58.42	.7428.03
73	135.00	.37500	563.00	.8064-01	.9780-01	.1094	58.46	.1085.02
73	135.00	.40000	564.00	.4321-01	.5239-01	.5962-01	58.53	.1085.02
73	135.00	.45000	565.00	.9483-01	.1150	.1286	58.55	.1189.02
73	135.00	.50000	566.00	.2067	.2506	.2803	58.59	.637.03
73	135.00	.55000	567.00	.1562	.1893	.2117	58.69	.1398.02
73	135.00	.60000	568.00	.9851-01	.1192	.1332	58.81	.3047.02
73	135.00	.65000	569.00	.8115-01	.9821-01	.1093	59.07	.2301.02

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

DATE 24 JAN 76

ARC 3.5-178 IH3

PAGE 78  
(REIT19)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 O+T+S		EXTERNAL TANK			TW DEG. R	STN NC R=0.9
				H/HREF R=1.0	H/HREF R=0.9	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HF		
73	135.00	.70000	570.00	.8919-01	.1079	.1205	.59.18	.4231	560.5	.1312-02
73	135.00	.75000	571.00	.8131-01	.9839-01	.1099	.59.10	.4239	561.5	.1197-02
73	135.00	.80000	572.00	.8449-01	.1024	.1145	.58.74	.4.963	566.3	.1245-02
73	135.00	.85000	573.00	.1023	.1239	.1385	.58.95	.6.020	564.6	.1507-02
73	135.00	.90000	574.00	.8519-01	.1032	.1154	.58.78	.5.008	4269	.1255-02
73	135.00	.93500	575.00	.2551	.3087	.3450	.59.07	.15.07	.4292	.3755-02
73	151.00	.40000	576.00	.6995-01	.8491-01	.9509-01	.58.17	.4.069	.4327	.032-02
73	157.00	.42500	577.00	.1108	.1344	.1505	.58.31	.6.461	.571.4	.1634-02
73	157.00	.45000	578.00	.1282	.1553	.1736	.58.75	.7.529	.4272	.1888-02
73	157.00	.47500	579.00	.1517	.1837	.2053	.58.89	.8.932	.4259	.564.1
73	157.00	.50000	580.00	.1107	.1340	.1498	.59.01	.6.533	.4247	.1630-02
73	157.00	.55000	581.00	.6338-01	.7667-01	.8565-01	.59.20	.3.752	.4230	.9325-03
73	157.00	.60000	582.00	.4960-01	.6000-01	.6703-01	.59.18	.2.936	.4231	.7298-03
73	157.00	.65000	583.00	.5456-01	.6604-01	.7380-01	.59.03	.3.221	.4245	.8031-03
73	157.00	.70000	584.00	.5915-01	.7035-01	.7859-01	.59.16	.3.440	.4233	.560.7
73	157.00	.75000	585.00	.5061-01	.6122-01	.8339-01	.59.19	.2.996	.4231	.7446-03
73	157.00	.80000	586.00	.3541-01	.4045-01	.4521-01	.58.95	.1.970	.4253	.4919-03
73	157.00	.85000	587.00	.5064-01	.6130-01	.6850-01	.59.02	.2.989	.4246	.7455-03
73	157.00	.90000	588.00	.7298-01	.8836-01	.9876-01	.58.95	.4.302	.4253	.1075-02
73	161.00	.42500	589.00	.1086	.1318	.1476	.58.24	.6.326	.4320	.1602-02
73	165.00	.50000	590.00	.1219	.1477	.1651	.58.82	.7.171	.4266	.565.0

DATE 24 JAN 76

ARC 3.5-178 1H5

PAGE 79

(REF 1120)

## EXTERNAL TANK

ARC 3.5-178 IH3 0+T+S

EXTERNAL TANK

## PARAMETRIC DATA

RN/L = 5.000

BETA =

.0000

ALPHA = -3.000

ELEVON = .0000

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HC BTU/LBHR	RS FT	RHOEL SLUG/FT2SEC	ALPHA DEG.
77	5.300	.5056+07	410.5	1302.	318.0	.1750-01	.8339	-3.000
79	5.300	.4970+07	406.9	1309.	319.8	.1750-01	.8241	.0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	H/H/T	TW DEG. R	STN NO R=0.9
79	67.500	5000C	516.00	1647-01	2004-01	2247-01	57.99	.9386	584.6	2441-03
79	67.500	60000	517.00	1805-01	2195-01	2461-01	58.12	.4374	583.0	.2674-03
79	67.500	65000	518.00	2478-01	3014-01	3379-01	58.12	.4374	583.0	.3672-03
79	67.500	70000	519.00	2002-01	2412-01	2725-01	58.42	.4346	579.2	.2963-03
79	67.500	75000	520.00	1939-01	2355-01	2637-01	58.54	.4335	577.8	.2869-03
79	67.500	80000	521.00	2685-01	3516-01	3929-01	58.36	.4352	580.0	.4272-03
79	67.500	90000	522.00	4295-01	.5214-01	.5839-01	58.62	.4327	576.7	.6354-03
79	67.500	20000	523.00	6570-01	.6758-01	.7665-01	58.78	.4312	54.8	.8237-03
79	90.000	25000	524.00	.3524-01	.4812-01	.5388-01	58.63	.4326	576.6	.5864-03
79	90.000	27500	525.00	.4000-01	.4870-01	.5464-01	57.83	.4402	586.7	.5932-03
79	90.000	30000	526.00	.1526	.1861	.2090	57.46	.4436	591.3	.2266-02
79	90.000	32500	527.00	.3439	.4195	.5714	57.30	.4452	593.3	.5109-02
79	90.000	35000	528.00	.2134	.2598	.2916	57.79	.4405	587.2	.3165-02
79	90.000	40000	529.00	.7211-01	.8771-01	.9841-01	57.98	.4387	584.8	.1069-02
79	90.000	45000	530.00	.3894-01	.4736-01	.5310-01	58.11	.4375	583.1	.5770-03
79	90.000	50000	531.00	.2975-01	.3619-01	.4056-01	58.14	.4372	582.7	.4409-03
79	90.000	55000	532.00	.2186-01	.3873-01	.4341-01	58.24	.4363	581.5	.4719-03
79	90.000	60000	533.00	.3307-01	.4020-01	.4506-01	58.25	.4326	581.3	.4898-03
79	90.000	65000	534.00	.5787-01	.7034-01	.7884-01	58.25	.4362	581.4	.8571-03
79	90.000	70000	535.00	.7450-01	.9042-01	.1012	58.66	.4323	576.2	.1102-02
79	90.000	75000	536.00	.8053-01	.9770-01	.1094	58.78	.4312	574.7	.1191-02
79	90.000	80000	537.00	.7272-01	.8832-01	.9893-01	58.52	.4254	578.2	.1076-02
79	90.000	85000	538.00	.7650-01	.9343-01	.1046	58.54	.4335	577.7	.1139-02
79	90.000	90000	539.00	.7375-01	.8954-01	.1003	58.60	.4322	577.0	.1091-02
79	112.50	27500	540.00	.4419-01	.5374-01	.6025-01	58.12	.4374	583.0	.6547-03
79	112.50	.30000	541.00	.4105-01	.4934-01	.5600-01	58.04	.4382	584.0	.6084-03

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	H/H/T	TW DEG. R	STN NO R=0.9
79	67.500	5000C	516.00	1647-01	2004-01	2247-01	57.99	.9386	584.6	.2441-03	
79	67.500	60000	517.00	1805-01	2195-01	2461-01	58.12	.4374	583.0	.2674-03	
79	67.500	65000	518.00	2478-01	3014-01	3379-01	58.12	.4374	583.0	.3672-03	
79	67.500	70000	519.00	2002-01	2412-01	2725-01	58.42	.4346	579.2	.2963-03	
79	67.500	75000	520.00	1939-01	2355-01	2637-01	58.54	.4335	577.8	.2869-03	
79	67.500	80000	521.00	2685-01	.3516-01	.3929-01	58.36	.4352	580.0	.4272-03	
79	67.500	90000	522.00	.4295-01	.5214-01	.5839-01	58.62	.4327	576.7	.6354-03	
79	67.500	20000	523.00	.6570-01	.6758-01	.7665-01	58.78	.4312	54.8	.8237-03	
79	90.000	25000	524.00	.3524-01	.4812-01	.5388-01	58.63	.4326	576.6	.5864-03	
79	90.000	27500	525.00	.4000-01	.4870-01	.5464-01	57.83	.4402	586.7	.5932-03	
79	90.000	30000	526.00	.1526	.1861	.2090	57.46	.4436	591.3	.2266-02	
79	90.000	32500	527.00	.3439	.4195	.5714	57.30	.4452	593.3	.5109-02	
79	90.000	35000	528.00	.2134	.2598	.2916	57.79	.4405	587.2	.3165-02	
79	90.000	40000	529.00	.7211-01	.8771-01	.9841-01	57.98	.4387	584.8	.1069-02	
79	90.000	45000	530.00	.3894-01	.4736-01	.5310-01	58.11	.4375	583.1	.5770-03	
79	90.000	50000	531.00	.2975-01	.3619-01	.4056-01	58.14	.4372	582.7	.4409-03	
79	90.000	55000	532.00	.2186-01	.3873-01	.4341-01	58.24	.4363	581.5	.4719-03	
79	90.000	60000	533.00	.3307-01	.4020-01	.4506-01	58.25	.4326	581.3	.4898-03	
79	90.000	65000	534.00	.5787-01	.7034-01	.7884-01	58.25	.4362	581.4	.8571-03	
79	90.000	70000	535.00	.7450-01	.9042-01	.1012	58.66	.4323	576.2	.1102-02	
79	90.000	75000	536.00	.8053-01	.9770-01	.1094	58.78	.4312	574.7	.1191-02	
79	90.000	80000	537.00	.7272-01	.8832-01	.9893-01	58.52	.4254	578.2	.1076-02	
79	90.000	85000	538.00	.7650-01	.9343-01	.1046	58.54	.4335	577.7	.1139-02	
79	90.000	90000	539.00	.7375-01	.8954-01	.1003	58.60	.4322	577.0	.1091-02	
79	112.50	27500	540.00	.4419-01	.5374-01	.6025-01	58.12	.4374	583.0	.6547-03	
79	112.50	.30000	541.00	.4105-01	.4934-01	.5600-01	58.04	.4382	584.0	.6084-03	

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ARC 3.5-178 IH3

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(IRE 1120)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-17C 1:3 0+1+S		EXTERNAL TANK		HW/HT	TW DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	QREF BTU/ F12SEC	QDOT BTU/ F12SEC			
79	112.50	.32500	542.00	.8355-01	.1016	.1140	.58.07	.1379	.583.6	.1238-02
79	112.50	.35000	543.00	.2381	.2049	.3245	.58.20	.1386	.582.0	.3527-02
79	112.50	.40000	544.00	.7685-01	.9339-01	.1047	.58.35	.4.484	.4353	.1138-02
79	112.50	.45000	545.00	.6349-01	.7713-01	.8641-01	.58.43	.3.710	.4345	.9398-03
77	112.50	.50000	546.00	.5064-01	.6157-01	.5903-01	.58.08	.2.941	.4369	.7444-03
77	112.50	.55000	547.00	.5824-01	.7084-01	.7944-01	.57.98	.3.376	.4379	.8564-03
77	112.50	.60000	548.00	.6152-01	.7486-01	.8337-01	.57.87	.3.560	.4389	.581.8
77	112.50	.65000	549.00	.7927-01	.9651-01	.1083	.57.76	.4.579	.4400	.583.2
77	112.50	.70000	550.00	.8857-01	.1077	.1208	.57.99	.5.137	.4378	.1167-02
77	112.50	.75000	551.00	.9144-01	.1112	.1247	.57.98	.5.302	.4379	.1302-02
77	112.50	.80000	552.00	.7980-01	.9719-01	.1091	.57.65	.4.600	.4410	.580.4
77	112.50	.85000	553.00	.6969-01	.8487-01	.9524-01	.57.66	.4.019	.4409	.1026-02
77	112.50	.90000	554.00	.6830-01	.8318-01	.9335-01	.57.64	.3.937	.4411	.584.6
77	123.00	.82500	555.00	.1263	.1537	.1724	.57.78	.7.295	.4399	.1058-02
77	123.00	.85000	556.00	.4340-01	.5286-01	.5928-01	.57.73	.2.505	.4402	.583.5
77	123.00	.87500	557.00	.8758-01	.1067	.1197	.57.58	.5.043	.4417	.6387-03
77	123.00	.90000	558.00	.1012	.1232	.1383	.57.64	.6.831	.4411	.1289-02
77	123.00	.92500	559.00	.2147	.2615	.2935	.57.61	.12.37	.4414	.584.6
77	123.00	.96000	560.00	.1116	.1357	.1523	.57.87	.6.456	.4389	.3160-02
77	157.00	.40000	576.00	.7677-01	.9343-01	.1048	.57.84	.4.440	.4392	.1641-02
77	157.00	.42500	577.00	.1097	.1330	.1491	.57.97	.6.336	.4380	.1129-02
77	157.00	.45000	578.00	.1304	.1565	.1776	.58.29	.7.603	.4350	.1607-02
77	157.00	.47500	579.00	.1377	.1673	.1874	.58.38	.8.041	.4352	.576.5
77	157.00	.50000	580.00	.9426-01	.1145	.1282	.58.41	.5.506	.4339	.2023-02
77	157.00	.55000	581.00	.5087-01	.6178-01	.6919-01	.58.46	.2.974	.4334	.575.0
77	157.00	.60000	582.00	.4313-01	.5225-01	.5880-01	.58.06	.2.504	.4372	.7441-03
77	157.00	.65000	583.00	.4684-01	.5692-01	.6378-01	.58.27	.2.730	.4352	.6341-03
77	157.00	.70000	585.00	.4612-01	.5602-01	.6275-01	.58.42	.2.695	.4337	.6774-03
77	157.00	.80000	586.00	.2983-01	.3626-01	.4064-01	.58.21	.1.737	.4357	.577.5
77	157.00	.85000	587.00	.5877-01	.5045-01	.5653-01	.58.28	.2.420	.4351	.6100-03
77	157.00	.90000	588.00	.6925-01	.845-01	.9429-01	.58.26	.4.034	.4353	.576.9
77	161.00	.42500	589.00	.1007	.1225	.1374	.57.94	.5.834	.4383	.1017-02
77	165.00	.40000	593.00	.7414-01	.9023-01	.1012	.57.83	.4.288	.4393	.580.9
77	165.00	.50000	595.00	.5951	.7245	.1492	.58.36	.6.399	.4343	.148-02
77	165.00	.70000	591.00	.8739-01	.1062	.1190	.58.23	.5.088	.4356	.1610-02
77	165.00	.90000	592.00	.6488-01	.1032	.1157	.58.14	.4.935	.4364	.1248-02
77	180.00	.00000	594.00	.6262	.7664	.8630	.56.33	.35.27	.4534	.9257-02
77	180.00	.50000-02	595.00	.5919	.7221	.8115	.57.11	.33.80	.4461	.591.3
77	180.00	.10000-01	596.00	.5951	.7245	.8130	.57.71	.34.34	.4434	.8756-02
77	180.00	.40000-01	597.00	.3928	.4781	.5362	.57.86	.22.73	.4390	.583.8
77	180.00	.60000-01	598.00	.2939	.3578	.4015	.57.70	.16.96	.4405	.581.9
77	180.00	.15000	599.00	.1241	.1512	.1697	.57.63	.7.153	.4412	.4325-02
77	180.00	.20000	600.00	.6437-01	.7820-01	.8766-01	.58.14	.3.740	.4364	.1827-02

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ARC 3.5-17B 1H3 0+1+S

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(REFIT20)

RUN NUMBER	PHI	X/L	Y/C NO	ARC 3.5-17B 1H3 0+1+S		EXTERNAL TANK		HW/HWT	TW DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	OREF	QDOT BTU/ FT2SEC			
77	80.00	.25000	601.00	.4769-01	.5788-01	.6481-01	.58.59	.4322	.572.8	.6999-03
77	80.00	.30000	602.00	.4754-01	.5781-01	.6481-01	.58.06	.4371	.579.3	.6989-03
77	80.00	.35000	603.00	.4567-01	.5556-01	.6230-01	.57.95	.4382	.580.8	.6716-03
77	80.00	.37500	604.00	.6849-01	.8339-01	.9357-01	.57.73	.4403	.583.6	.1008-02
77	80.00	.40000	605.00	.7825-01	.9545-01	.1071	.57.55	.4419	.585.7	.1154-02
77	80.00	.42500	606.00	.1883	.2295	.2577	.57.45	.4429	.587.1	.2774-02
77	80.00	.45000	607.00	.4666	.4980	.5592	.57.41	.4432	.587.5	.6019-02
77	80.00	.47500	608.00	.9768-01	.1190	.1336	.57.54	.4420	.585.9	.1438-02
77	80.00	.50000	609.00	.1767	.2153	.2417	.57.56	.4419	.585.6	.2602-02
77	80.00	.52500	610.00	.1129	.1375	.1544	.57.54	.4420	.585.8	.1662-02
77	80.00	.55000	611.00	.9141-01	.1114	.1251	.57.49	.4425	.586.5	.1346-02
77	80.00	.57500	612.00	.7410-01	.9030-01	.1014	.57.48	.4426	.586.6	.1091-02
77	80.00	.60000	613.00	.1151	.1401	.1572	.57.77	.4399	.583.0	.1694-02
77	80.00	.62500	614.00	.9821-01	.1196	.1343	.57.59	.4416	.585.2	.1446-02
77	80.00	.65000	615.00	.9037-01	.1101	.1237	.57.42	.4431	.587.3	.1331-02
77	80.00	.67500	616.00	.9270-01	.1130	.1269	.57.37	.4437	.586.0	.1366-02
77	80.00	.70000	617.00	.8747-01	.1065	.1196	.57.63	.4412	.584.8	.1289-02
77	80.00	.75000	618.00	.7813-01	.9516-01	.1068	.57.63	.4412	.584.8	.1150-02
77	80.00	.80000	619.00	.6694-01	.8164-01	.9171-01	.57.26	.4333	.589.4	.9866-03
77	80.00	.85000	620.00	.6416-01	.7824-01	.6789-01	.57.29	.4444	.589.0	.9455-03
77	80.00	.90000	621.00	.1270	.1547	.1737	.57.48	.4426	.586.7	.1870-02
77	80.00	.93700	622.00	.2087	.2541	.2851	.57.78	.4398	.582.9	.3072-02
77	80.00	.97500	623.00	.2829-01	.3436-01	.3849-01	.58.37	.4313	.575.6	.4155-03
77	84.00	.80000-01	624.00	.2205	.2679	.3001	.58.41	.4333	.575.0	.3239-02
77	96.00	.15000	625.00	.1026	.1245	.1394	.58.68	.4313	.571.7	.1506-02
77	96.00	.30000	626.00	.4050-01	.4913-01	.5498-01	.58.78	.4304	.570.4	.5942-03
77	96.00	.50000	627.00	.1381	.1678	.1880	.58.27	.4351	.576.7	.2028-02
77	96.00	.70000	628.00	.5871-01	.8350-01	.9358-01	.58.23	.4356	.577.3	.1010-02
77	97.00	.90000	629.00	.9531-01	.1158	.1298	.58.19	.4359	.577.8	.1401-02
77	98.00	.15000	630.00	.1057	.1283	.1437	.58.57	.4324	.573.1	.1552-02
77	98.00	.40000	631.00	.4778-01	.5798-01	.6490-01	.58.66	.4316	.572.0	.7011-03
77	98.00	.60000	632.00	.5335-01	.6477-01	.7253-01	.58.53	.4327	.573.5	.7832-03
77	98.00	.80000	633.00	.4329-01	.5259-01	.5891-01	.58.39	.4340	.575.2	.6359-03
77	98.00	.93700	634.00	.1891	.2296	.2571	.58.50	.4330	.573.9	.2776-02
77	216.00	.40000	635.00	.7639-01	.9263-01	.1036	.58.87	.4296	.569.4	.1120-02

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ARC 3.5-178 IH3

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(RE1B01)

ORBITER BOTTOM CL

ARC 3.5-178 IH3  
ORB BOTTOM CL  
PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PFR FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
3	5.300	.1491+07	165.6	1581.	390.9	.1750-01	.2979	.0000
5	5.300	.1411+07	141.9	1487.	366.2	.1750-01	.2656	.0000
9	5.300	.1476+07	122.8	1322.	323.2	.1750-01	.2472	.0000
10	5.300	.1454+07	118.8	:3C7.	319.3	.1750-01	.2407	.0000

\*\*\*TEST CONDITIONS\*\*\*

\*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI X/L	1/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HM/HIT	HM/HIT	TM DEG. R	STN NO R=0.9	
9	.00000	1.0000	.5389	.6512	.7269	37.32	17.96	.4199	.565	.56	.1455-01	
9	.00000	.50000-02	.20000	.3521	.4253	.4747	33.35	11.74	.4194	.564	.56	.9503-02
9	.00000	.10000-01	.3.0000	.2324	.2807	.3132	33.38	.7.755	.4190	.564	.3	.6271-02
9	.00000	.20000-01	4.0000	.1038	.1254	.1399	33.44	3.472	.4179	.562	.9	.2801-02
10	.00000	.30000-01	5.0000	.7129-01	.8633-01	.9651-01	32.00	2.281	.4200	.566	.9	.1946-02
3	.00000	.40000-01	6.0000	.5350-01	.6457-01	.7201-01	33.53	1.794	.4164	.560	.8	.1443-02
10	.00000	.50000-01	7.0000	.4642-01	.5618-01	.6279-01	32.08	1.489	.4247	.565	.2	.1267-02
9	.00000	.60000-01	8.0000	.3047-01	.3675-01	.4097-01	33.61	1.024	.4150	.559	.0	.8213-03
10	.00000	.70000-01	9.0000	.4420-01	.5348-01	.5976-01	32.12	1.419	.4240	.564	.3	.1206-02
9	.00000	.80000-01	10.0000	.1076	.1298	.1447	33.64	3.620	.4145	.558	.3	.2900-02
10	.00000	.90000-01	11.0000	.2046	.2475	.2765	32.14	6.576	.4235	.563	.6	.5521-02
9	.00000	.10000-00	12.0000	.4419	.5329	.5940	33.66	14.87	.4142	.558	.0	.1191-01
9	.00000	.12000-	14.0000	.1755	.2116	.2359	33.58	5.912	.4138	5 <sup>r</sup>	.3	.4730-02
10	.00000	.13000-	15.0000	.4658-01	.5635-01	.5254-01	32.18	1.499	.4230	.552	.9	.1270-02
9	.00000	.14000	16.0000	.2091-01	.2521-01	.2810-01	33.69	.7046	.4136	.557	.2	.5636-03
10	.00000	.15000	.17.0000	.1548-01	.1872-01	.2092-01	32.18	.4981	.4230	.562	.8	.4222-03
9	.00000	.16000	.18.0000	.2181-01	.2629-01	.2931-01	33.68	.7344	.4139	.557	.5	.5877-03
10	.00000	.17000	.19.0000	.2262-01	.2736-01	.3056-01	32.19	.7280	.4228	5 <sup>r</sup>	.7	.6169-03
9	.00000	.18000	.20.0000	.25-9-01	.3337-01	.3720-01	33.68	.9322	.4138	.557	.4	.7459-03
10	.00000	.19000	.21.0000	.19060	.2521-01	.5053-01	32.13	1.344	.4228	.562	.7	.1139-02
5	.00000	.20000	.22.0000	.6314-01	.7611-01	.8482-01	33.73	2.130	.4130	.556	.4	.1701-02
10	.00000	.22500	.23.0000	.6820-01	.8244-01	.9206-01	32.27	2.201	.4214	.560	.7	.1859-02
9	.00000	.25000	.24.0000	.7212-01	.8693-01	.9689-01	33.71	2.431	.4133	.556	.6	.1943-02
10	.00003	.27500	.25.0000	.5793-01	.7006-01	.7824-01	32.23	1.867	.4221	.561	.7	.1580-02

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AFC 3.5-17B 1H3

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(REF011)

RUN NUMBER	P-H1	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	ARC 3.5-17B 1H3 0+T+S	ORB BOTTOM CL	GREF BTU/ FT2SEC	CDDT BTU/ FT2SEC	HW/HT	HW/HT	HW/HT	STN NO R=0.6	
3	00090	30000	26.000	.4430-01	.5342-01	.5955-01	33.65	1.491	.4143	.558.1	.1194-02				
10	02000	32500	27.000	.4154-01	.5024-01	.5612-01	32.20	1.337	.4225	.562.4	.1133-02				
9	02000	35000	28.000	.3075-01	.3706-01	.4132-01	33.62	1.033	.4148	.558.7	.8283-03				
18	00000	37500	29.000	.3953-01	.4781-01	.5340-01	32.20	1.273	.4225	.562.4	.1070-02				
19	00000	40000	30.000	.4720-01	.5691-01	.5344-01	33.66	1.589	.4141	.557.8	.1272-02				
13	02000	42500	31.000	.4735-01	.5915-01	.6605-01	32.27	1.579	.4214	.560.7	.1334-02				
15	02000	45000	32.000	.5107-01	.6863-01	.6863-01	33.68	1.720	.4138	.557.3	.1376-02				
16	02000	47500	33.000	.5556-01	.5510-01	.6154-01	32.22	1.468	.4223	.562.0	.1242-02				
17	02000	50000	34.000	.4386-01	.5289-01	.5896-01	33.65	1.476	.4144	.558.2	.1182-02				
18	00000	52500	35.000	.4160-01	.5031-01	.5619-01	32.21	1.340	.4224	.562.0	.1134-02				
19	02000	55000	36.000	.4062-01	.4898-01	.5460-01	33.67	1.368	.4141	.557.7	.1095-02				
20	02000	57500	37.000	.3917-01	.4728-01	.5293-01	32.19	1.261	.4228	.562.6	.1068-02				
21	02000	60000	38.000	.3834-01	.4624-01	.5155-01	33.63	1.289	.4147	.558.6	.1033-02				
22	02000	62500	39.000	.3606-01	.4362-01	.4872-01	32.20	1.161	.4226	.562.4	.9835-03				
23	02000	65000	40.000	.3321-01	.4004-01	.4463-01	33.68	1.118	.4139	.557.5	.8949-03				
24	02000	67500	41.000	.3610-01	.4032-01	.4032-01	32.22	1.9619	.4222	.561.8	.8141-03				
25	02000	70000	42.000	.2916-01	.3395-01	.3784-01	33.68	.9485	.4137	.557.7	.7598-03				
26	02000	72500	43.000	.1922-01	.2344-01	.2595-01	32.24	.6196	.4219	.561.4	.5240-03				
27	02000	75000	44.000	.4231-01	.5101-01	.5685-01	33.71	1.126	.4133	.556.7	.1140-02				
28	00000	77500	45.000	.8326-01	.1007	.1124	32.25	2.685	.4217	.561.1	.2270-02				
29	00000	80000	46.000	.1142	.1376	.1534	33.72	3.850	.4132	.556.6	.3076-02				
30	00000	82500	47.000	.1144	.1393	.1514	32.26	2.690	.4215	.560.9	.3118-02				
31	00000	85000	48.000	.7429-01	.8952-01	.9075-01	33.77	2.500	.4123	.557.4	.2001-02				
32	00000	87500	49.000	.2909-01	.3515-01	.3924-01	32.35	.9410	.4200	.558.9	.7927-03				
33	00000	90000	50.000	.1870-01	.2253-01	.2510-01	33.83	.632E	.4112	.557.9	.5036-03				
34	00000	92500	51.000	.1467-01	.1773-01	.1979-01	32.37	.4749	.4197	.558.5	.3998-03				
35	00000	95000	52.000	.8848-02	.1066-01	.1187-01	33.84	.2994	.4112	.553.8	.2383-03				
36	00000	97500	53.000	.5633-02	.6886-02	.7596-02	32.37	.1823	.4196	.558.4	.1535-03				
37	00000	10000	54.000	.2045-02	.2463-02	.2744-02	33.81	.6914-01	.4116	.554.4	.5506-04				
38	00000	10250	56.000	.2408-02	.2901-02	.3232-02	33.80	.8139-01	.4118	.554.7	.6496-04				
39	00000	10500	58.000	.4294-02	.5176-02	.5769-02	33.71	.1447	.4134	.556.8	.1157-03				

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ARC 3.5-178 IH3

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(RE1802)

## ORBITER BOTTOM CL

ARC 3.5-178 IH3 O+T+S ORB BOTTOM CL

RUN NUMBER	MACH	RN/L PER FT	P0 PSTA	TO DEG, R	HO BTU/LBH	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.	ELEVON • .0000
15	5.300	.4972+07	405.4	1305.	318.9	1750-01	.8223	.0000	
16	5.300	.4953+07	406.3	1310.	320.2	1750-01	.8223	.0000	
17	5.300	.5006+07	405.7	1300.	317.6	1750-01	.8249	.0000	
18	5.300	.5098+07	404.9	1284.	313.4	1750-01	.8294	.0000	

## \*\*\*TEST CONDITIONS\*\*\*

RN/L = 5.000      BETA = .0000      ALPHA = .0000

## PARAMETRIC DATA

ORB BOTTOM CL

RUN NUMBER	PHI X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	ODOT BTU/FT2SEC	HM/HT	TW DEG, R	STN NO R=0.9
18	.00000	1.0000	.5437	.6639	.7463	55.72	30.30	.4474	584.5	.8005-02
18	.00000	.50000-02	.3568	.4354	.4894	55.85	19.93	.4462	582.9	.5251-02
18	.00000	.50000-01	.2378	.2901	.3259	55.97	13.31	.4451	581.4	.3498-02
18	.00000	.20000-01	.1044	.1272	.1428	56.21	5.867	.4427	578.3	.1534-02
16	.00000	.10000-01	.6746-01	.8222-01	.9228-01	57.63	3.388	.4423	590.3	.1003-02
18	.00000	.40000-01	.6148-01	.5019-01	.5664-01	56.57	2.347	.4393	573.8	.6091-03
18	.00000	.50000-01	.4178-01	.5081-01	.5698-01	58.12	2.428	.4377	584.2	.6200-03
16	.00000	.60000-01	.71000	.7699-01	.9360-01	1049	56.87	.4364	570.1	.1129-02
16	.00000	.70000-01	.86000	.1131	.1374	1539	58.43	.4349	580.4	.1676-02
18	.00000	.60000-01	10.000	.1357	.1649	1848	56.97	7.729	.4354	.1989-02
16	.00000	.90000-01	11.000	.1795	.2180	2442	58.53	10.50	.4339	.5660-02
18	.00000	.10000+00	12.000	.4431	.5387	.6038	56.87	25.20	.4364	.6500-02
18	.00000	.12000	14.000	.1668	.2027	.2272	56.94	3.497	.4357	.2446-02
16	.00000	.13000	15.000	.7065-01	.8576-01	.9503-01	58.71	4.148	.4322	.7508-03
18	.00000	.14000	16.000	.3534-01	.4292-01	.4898-01	57.14	2.020	.4338	.5179-03
16	.00000	.15000	17.000	.2813-01	.3413-01	.3820-01	58.84	1.655	.4310	.575.2
18	.00000	.16000	18.000	.3674-01	.4461-01	.4997-01	57.17	2.100	.4336	.5383-03
15	.00000	.17000	19.000	.4591-01	.5568-01	.6231-01	58.93	2.705	.4302	.6795-03
18	.00000	.18000	20.000	.5124-01	.6222-01	.6969-01	57.18	2.930	.4334	.506.1
16	.00000	.19000	21.000	.4653-01	.5643-01	.6314-01	58.99	2.745	.4296	.5688-03
18	.00000	.20000	22.000	.5938-01	.7208-01	.8071-01	57.29	3.401	.4324	.564.9
15	.00000	.22500	23.000	.7781-01	.9421-01	.1053	59.41	4.622	.4257	.1150-02
18	.00000	.25000	24.000	.9539-01	.1158	.1295	57.33	5.469	.4319	.1397-02
16	.00000	.27500	25.000	.9070-01	.1099	.1230	59.13	5.363	.4282	.571.5

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APC 3.5-178 IH3

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(REC1802)

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	ARC 3.5-178 IH3 O+T+S	ORB BOTTOM CL	QREF	QDOT	BTU/ FT2SEC	BTU/ FT2SEC	HT/HT	HT/HT	TW DFG. R	STN NO R=0.9
18	.00000	.30000	26.000	.7563-01	.8577-01	.9606-01	57.19	4.039	.4333	.4292	566.1	.1035-02				
16	.00000	.32500	27.000	.7581-01	.9191-01	.1028	59.04	4.475	.4284	.4344	572.7	.1122-02				
18	.00000	.35000	28.000	.6245-01	.7586-01	.8499-01	57.08	3.565	.4295	.4521	567.4	.9154-03				
16	.00000	.37500	29.000	.7653-01	.9292-01	.1040	59.00	4.521	.4295	.4334	573.2	.1134-02				
18	.00000	.40000	30.000	.7817-01	.9492-01	.1063	57.13	4.470	.4273	.4334	566.2	.1145-02				
16	.00000	.42500	31.000	.8348-01	.1011	.1131	59.23	4.945	.4273	.4273	570.2	.1235-02				
16	.00000	.45000	32.000	.8143-01	.9885-01	.1107	57.29	4.665	.4274	.4284	564.8	.1193-02				
18	.00000	.47500	33.000	.7577-01	.9183-01	.1027	59.11	4.479	.4284	.4334	571.8	.1121-02				
16	.00000	.50000	34.000	.6806-01	.8264-01	.3256-01	57.19	3.892	.4285	.4334	566.1	.9973-03				
18	.00000	.52500	35.000	.6248-01	.7573-01	.8471-01	59.11	3.693	.4285	.4334	571.8	.9245-03				
16	.00000	.55000	36.000	.6234-01	.7568-01	.8476-01	57.23	3.567	.4292	.4329	565.6	.9133-03				
18	.00000	.57500	37.000	.6117-01	.7416-01	.8297-01	59.03	3.611	.4292	.4292	572.8	.9052-03				
16	.00000	.60000	38.000	.5991-01	.7276-01	.8151-01	57.12	3.422	.4340	.4340	567.0	.6760-03				
18	.00000	.62500	39.000	.6213-01	.7532-01	.8427-01	59.06	3.670	.4289	.4325	572.4	.9195-03				
15	.00000	.65000	40.000	.6571-01	.6520-01	.7301-01	57.28	3.077	.4276	.4276	565.0	.7669-03				
18	.00000	.67500	41.000	.4868-01	.5818-01	.6536-01	59.20	2.882	.4276	.4276	570.7	.7201-03				
16	.00000	.70000	42.000	.4477-01	.5434-01	.6084-01	57.29	2.565	.4323	.4323	564.8	.6569-03				
18	.00000	.72500	43.000	.4741-01	.5743-01	.6422-01	59.28	2.810	.4269	.4269	569.7	.7011-03				
16	.00000	.75000	44.000	.6629-01	.8044-01	.9005-01	57.39	3.804	.4314	.4314	563.6	.9708-03				
18	.00000	.77500	45.000	.9320-01	.1129	.1262	59.31	5.527	.4266	.4266	569.3	.1378-02				
16	.00000	.80000	46.000	.1235	.1499	.1679	57.31	7.079	.4322	.4322	564.5	.1609-02				
18	.00000	.82500	47.000	.1467	.1776	.1936	59.30	8.697	.4267	.4267	569.4	.2169-02				
16	.00000	.85000	48.000	.9971-01	.1197	.1340	57.46	5.672	.4307	.4307	562.6	.1445-02				
18	.00000	.87500	49.000	.3920-01	.4743-01	.5299-01	55.63	2.338	.4236	.4236	565.3	.5792-03				
16	.00000	.90000	50.000	.2164-01	.2624-01	.2935-01	57.53	1.247	.4291	.4291	560.5	.3167-03				
18	.00000	.92500	51.000	.1807-01	.2186-01	.2441-01	59.71	1.079	.4229	.4229	564.3	.2669-03				
16	.00000	.95000	52.000	.1454-01	.1499-01	.1627-01	57.61	.6910	.4293	.4293	560.7	.1755-03				
18	.00000	.97500	53.000	.7126-02	.8620-02	.9629-02	59.70	.4254	.4230	.4230	564.5	.1053-03				
16	.00000	.51.000	.3308-02	.4011-02	.4488-02	.57.57	.1904	.4297	.4297	.4297	561.3	.4861-04				
18	.00000	.56.000	.3212-02	.3894-02	.4358-02	.57.57	.1849	.4047	.4318	.4318	564.1	.4700-04				
18	.00000	.58.000	.7057-02	.8565-02	.9589-02	.57.35						.1034-03				

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(REF 1803)

## ORBITER BOTTOM CL

ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S (TRIPS)

ORB BOTTOM CL

		RN/L	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT <sup>2</sup> SEC	ALPHA DEG.	ELEVON
		= 1.500		= .0000	= .0000	= .0000	= .0000	= .0000	= .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT <sup>2</sup> SEC	ALPHA DEG.	ELEVON
19	5.300	.1500-07	122.6	1308.	319.5	.1750-01	.2485	.6000	
20	5.300	.1537-07	121.3	1279.	312.1	.1750-01	.2491	.0000	
21	5.300	.1523-07	122.0	1291.	315.3	.1750-01	.2492	.0000	
22	5.300	.1470-07	122.1	1321.	322.9	.1750-01	.2459	.0000	

\*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT <sup>2</sup> SEC	QDOT BTU/ FT <sup>2</sup> SEC	TH DEG. R	STN NO R=0.9
12	.00000	1.0000	.5564	.6782	.7615	.7615	.1755	.4431	.590.1	.1504-01
19	.00000	2.0000	.3587	.4370	.4905	.3158	.1133	.4424	.599.1	.9691-02
19	.00000	1.0000-01	.3.0000	.2274	.2851	.3200	.3161	.7397	.4419	.6322-02
19	.00000	.20000-01	.4.0000	.1026	.1252	.1404	.3172	.3261	.4401	.2776-02
19	.00000	.1.0000-01	.5.0000	.7057	.01	.9591-01	.3165	.2333	.4323	.568.0
19	.00000	.4.0000-01	.5.0000	.4678	.01	.5668-01	.6376-01	.3192	.4366	.581.4
21	.00000	.50000-01	.7.0000	.3078	.01	.3735-01	.4180-01	.3172	.4310	.566.3
19	.50000	.6.0000-01	.8.0000	.4792	.01	.5818-01	.6516-01	.3213	.4329	.576.5
21	.00000	.7.0000-01	.9.0000	.7986	.01	.9686-01	.1084	.3177	.4302	.565.3
19	.00000	.8.0000-01	10.0000	.1117	.01	.1355	.1517	.3226	.4308	.573.7
21	.00000	.9.0000-01	11.0000	.1049	.01	.2242	.2509	.3179	.4298	.564.7
19	.00200	.10.0000+C0	12.0000	.4576	.01	.558	.6207	.3235	.4293	.571.6
19	.00200	.12.0000	14.0000	.1577	.01	.2032	.2273	.3243	.4279	.569.8
21	.00000	.13.0000	15.0000	.488	.01	.5438-01	.6083-01	.3185	.4289	.563.5
19	.00000	.14.0000	16.0000	.2659	.01	.3216-01	.3596-01	.2249	.4269	.568.5
21	.00000	.15.0000	17.0000	.3870	.01	.4643-01	.5194-01	.3185	.4288	.563.4
19	.00000	.16.0000	18.0000	.441F	.01	.5942-01	.6644-01	.3250	.4267	.568.2
21	.00000	.17.0000	19.0000	.4560	.01	.5527-01	.6183-01	.3186	.4287	.563.3
19	.20000	.18.0000	20.0000	.3645	.01	.4657-01	.5206-01	.3253	.4262	.567.5
21	.00000	.19.0000	21.0000	.4791	.01	.5755-01	.6484-01	.3185	.4288	.563.5
19	.00000	.20.0000	22.0000	.6973	.01	.8440-01	.9432-01	.3261	.4274	.565.7
21	.00000	.22.0000	23.0000	.5134	.01	.6221-01	.6958-01	.3192	.4276	.561.8
19	.00000	.23.0000	24.0000	.7056	.01	.8511-01	.9508-01	.3271	.4231	.553.4
21	.00000	.25.0000	25.0000	.64	.01	.7770-01	.8691-01	.3188	.4284	.562.8

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ARC 3.5-178 IH3

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(RE1B03)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 O+T+S (TRIPS)			ORB BOTTOM CL	QDOT	BTU/FT2SEC	TW DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85					
19	.00000	.30000	25.000	.5393-01	.6526-01	.7292-01	32.64	1.760	.4242	564.9	.1449-02
21	.00000	.32500	27.000	.40E6-01	.5898-01	.6599-01	31.84	1.549	.4289	563.6	.1301-02
19	.00000	.35000	28.000	.3673-01	.4946-01	.4968-01	32.64	1.199	.4243	565.0	.9868-03
21	.00000	.37500	29.000	.4034-01	.4891-01	.5472-01	31.84	1.285	.4290	563.6	.1079-02
19	.00000	.40000	30.000	.4994-01	.6043-01	.5752-01	32.66	1.631	.4240	564.6	.1341-02
21	.00000	.42500	31.000	.5500-01	.6685-01	.7454-01	31.92	1.755	.4277	561.9	.1470-02
19	.00000	.45000	32.000	.5465-01	.6611-01	.7386-01	32.70	1.787	.4233	563.7	.1468-02
21	.00000	.47500	33.000	.4899-01	.5938-01	.6642-01	31.87	1.561	.4285	563.1	.1310-02
19	.00000	.50000	34.000	.4349-01	.5622-01	.5880-01	32.66	1.421	.4239	564.5	.1168-02
21	.00000	.52500	35.000	.4024-01	.4877-01	.5455-01	31.87	1.282	.4285	563.0	.1076-02
19	.00000	.55000	36.000	.4060-01	.4912-01	.5487-01	32.69	1.327	.4235	563.9	.1090-02
21	.00000	.57500	37.000	.3848-01	.4684-01	.5218-01	31.85	1.225	.4288	563.4	.1029-02
19	.00000	.60000	38.000	.3859-01	.4669-01	.5218-01	32.65	.260	.4241	564.7	.1036-02
21	.00000	.62500	39.000	.3679-01	.4159-01	.4989-01	31.86	1.172	.4286	563.1	.9839-03
19	.00000	.65000	40.000	.3346-01	.4017-01	.4521-01	32.71	1.095	.4231	563.3	.8985-03
21	.00000	.67500	41.000	.2942-01	.3565-01	.3988-01	31.89	.9383	.4281	562.4	.7866-03
19	.00000	.70000	42.000	.2784-01	.3367-01	.3762-01	32.71	.9105	.4231	563.4	.7475-03
21	.00000	.72500	43.000	.2050-01	.2183-01	.2777-01	31.92	.6542	.4276	561.8	.5480-03
19	.00000	.75000	44.000	.3775-01	.4565-01	.5099-01	32.75	1.236	.4224	562.4	.1013-02
21	.00000	.77500	45.000	.8536-01	.1034	.1157	31.93	2.726	.4274	561.5	.2282-02
19	.00000	.80000	46.000	.1154	.1395	.1558	32.75	3.778	.4224	562.4	.3097-02
21	.00000	.82500	47.000	.1047	.1268	.1418	31.34	3.342	.4273	561.4	.2798-02
19	.00000	.85000	48.000	.7875-01	.9519-01	.1063	32.83	2.596	.4210	560.6	.2113-02
21	.00000	.87500	49.000	.2880-01	.3487-01	.3898-01	32.02	.9220	.4259	559.6	.7695-03
19	.00000	.90000	50.000	.1818-01	.2196-01	.2452-01	32.92	.5984	.4196	558.7	.4877-03
21	.00000	.92500	51.000	.1511-01	.1830-01	.2045-01	32.02	.4839	.4258	559.4	.4037-03
19	.00000	.95000	52.000	.9166-02	.1107-01	.1236-01	32.91	.3017	.4196	558.8	.2459-03
21	.00000	.97500	53.000	.5429-02	.6574-02	.7349-02	32.02	.1738	.4258	559.5	.1451-03
19	.00000	.10000	54.000	.2658-02	.3233-02	.3587-02	32.82	.8722-01	.4212	560.9	.7133-04
19	.00000	.10250	56.000	.3059-02	.4131-02	.3277	1.002	.4221	562.0	.8211-04	
19	.00000	.10500	58.000	.4846-02	.5864-02	.6553-02	32.64	.1582	.4243	565.0	.1302-03

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ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S (TRIPS)

ORBITER BOTTOM CL

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(RE1B04)

RNL = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

RNL = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

ORBITER BOTTOM CL

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/LBH	RS FT	RHOEL SLUG/FT2SEC	ALPHA DEG.
29	5.300	.4977+.07	406.3	1307.	319.2	.1750-.01	.8238	.0000
30	5.300	.5006+.07	406.2	1302.	317.9	.1750-.01	.8254	.0000
31	5.300	.5006+.07	406.4	1302.	318.0	.1750-.01	.8257	.0000
32	5.300	.5039+.07	406.7	1297.	316.8	.1750-.01	.8281	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HW/HT	HW/HT	TW DEG. R	STN NO R=0.9	
32	.00000			1.0000	.5063	.6239	.7059	.54.14	27.41	.4697	620.1	.7546-.02	
32	.00000			.50000-.02	2.0000	.3420	.4213	.4766	.54.24	.4687	618.9	.5096-.02	
32	.00000			.10000-.01	3.0000	.2320	.2856	.3230	.54.38	.4674	617.1	.3455-.02	
32	.00000			.20000-.01	4.0000	.1041	.1280	.1446	.54.68	.4645	613.3	.1549-.02	
32	.00000			.30000-.01	5.0000	.6593	.01	.9069-.01	.56.32	.4506	597.1	.9767-.03	
32	.00000			.40000-.01	6.0000	.4564	.01	.5599-.01	.6315-.01	.4590	606.0	.6776-.03	
32	.00000			.50000-.01	7.0000	.3034	.01	.4159-.01	.56.87	.4454	590.2	.4495-.03	
32	.00000			.60000-.01	8.0000	.5306	.01	.6495-.01	.7314-.01	.4536	598.9	.7862-.03	
32	.00000			.70000-.01	9.0000	.9080	.01	.1105	.1242	.4420	585.6	.1344-.02	
32	.00000			.80000-.01	10.0000	.1191	.1456	.1638	.56.99	.4512	595.7	.1763-.02	
32	.00000			.90000-.01	11.0000	.2029	.2471	.2773	.57.36	.4407	584.0	.3002-.02	
32	.00000			.100000-.00	12.0000	.4491	.5491	.6179	.56.10	.4510	595.4	.6648-.02	
32	.00000			.120000	14.0000	.1716	.2097	.2359	.56.22	.4499	594.0	.2539-.02	
32	.00000			.130000	15.0000	.6619	.01	.8053-.01	.9032-.01	.3.813	580.9	.9784-.03	
32	.00000			.140000	16.0000	.3196	.01	.3901-.01	.4385-.01	.56.55	.4457	.589.8	.4724-.03
32	.00000			.150000	17.0000	.4737	.01	.5759-.01	.6455-.01	.57.80	.4366	578.6	.6998-.03
32	.00000			.160000	18.0000	.5539	.01	.6759-.01	.7594-.01	.56.66	.4457	588.5	.8185-.03
32	.00000			.170000	19.0000	.6448	.01	.7838-.01	.8784-.01	.57.88	.4359	577.5	.9524-.03
32	.00000			.180000	20.0000	.5719	.01	.6975-.01	.7835-.01	.56.76	.4447	587.2	.8447-.03
32	.00000			.190000	21.0000	.5325	.01	.6471-.01	.7251-.01	.57.95	.4352	576.7	.7864-.03
32	.00000			.200000	22.0000	.8750	.01	.9932-.01	.1115	.56.98	.4427	584.5	.1203-.02
32	.00000			.225000	23.0000	.6518	.01	.7908	.8832	.58.38	.4311	571.2	.9611-.03
32	.00000			.250000	24.0000	.9515	.01	.1158	.1299	.57.35	.4392	579.9	.1403-.02
32	.00000			.275000	25.0000	.8555	.01	.1039	.1163	.58.15	.4333	574.2	.1262-.02

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ARC 3.5-178 1H3

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(REF1804)

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	ARC 3.5-178 1H3 0+1+S (TRIPS)	ORB BOTTOM CL	HW/HIT	HW/HIT	TW DEG. R	STN NO R=0.9
32	.00000	.30000	26.000	.7156-01	.8718-01	.9786-01	QREF R=0.85	.57.06	.4.083	.4419	.583.4
30	.00000	.32500	27.000	.7301-01	.8859-01	.9935-01	QREF R=0.85	.58.05	.4.239	.4346	.575.3
32	.00000	.35000	28.000	.5276-01	.6420-01	.7206-01	QREF R=0.85	.57.07	.3.007	.4418	.583.3
30	.00000	.37500	29.000	.6093-01	.7401-01	.8292-01	QREF R=0.85	.58.03	.3.536	.4344	.7776-03
32	.00000	.40000	30.000	.7047-01	.8593-01	.9632-01	QREF R=0.85	.57.15	.4.027	.4410	.6994-03
30	.00000	.42500	31.000	.8172-01	.9919-01	.1111	QREF R=0.85	.58.25	.4.760	.4323	.1040-02
32	.00000	.45000	32.000	.7290-01	.8873-01	.9954-01	QREF R=0.85	.57.31	.4.178	.4396	.1206-02
30	.00000	.47500	33.000	.6727-01	.8168-01	.9147-01	QREF R=0.85	.58.17	.3.913	.4331	.1078-02
32	.00000	.50000	34.000	.5581-01	.6796-01	.7626-01	QREF R=0.85	.57.19	.3.191	.4407	.581.9
30	.00000	.52500	35.000	.5480-01	.6654-01	.7451-01	QREF R=0.85	.58.18	.3.188	.4330	.8232-03
32	.00000	.55000	36.000	.5296-01	.6447-01	.7234-01	QREF R=0.85	.57.27	.3.033	.4399	.8086-03
30	.00000	.57500	37.000	.5462-01	.6634-01	.7431-01	QREF R=0.85	.58.13	.3.176	.4335	.7811-03
32	.00000	.60000	38.000	.5410-01	.6590-01	.7396-01	QREF R=0.85	.57.12	.3.090	.4414	.6963-03
30	.00000	.62500	39.000	.5656-01	.6379-01	.7704-01	QREF R=0.85	.58.19	.3.297	.4330	.7983-03
32	.00000	.65000	40.000	.4676-01	.5598-01	.6378-01	QREF R=0.85	.57.47	.2.688	.4380	.8361-03
30	.00000	.67500	41.000	.4230-01	.5134-01	.5748-01	QREF R=0.85	.58.31	.2.467	.4317	.6892-03
32	.00000	.70000	42.000	.3744-01	.4555-01	.5108-01	QREF R=0.85	.57.45	.2.151	.4381	.6210-03
30	.00000	.72500	43.000	.3971-01	.4817-01	.5392-01	QREF R=0.85	.58.42	.2.320	.4308	.578.7
32	.00000	.75000	44.000	.7683-01	.5340-01	.1047	QREF R=0.85	.57.64	.4.429	.4364	.1132-02
30	.02000	.45000	45.000	.1004	.1218	.1363	QREF R=0.85	.58.45	.5.870	.4204	.1480-02
32	.00339	.80000	46.000	.128	.372	.1538	QREF R=0.85	.57.49	.6.483	.4379	.578.3
30	.00000	.82500	47.000	.1352	.652	.1849	QREF R=0.85	.58.44	.7.962	.4305	.662-02
32	.00000	.85000	48.000	.8694-01	.1057	.1184	QREF R=0.85	.57.72	.5.018	.4356	.309-02
30	.00000	.87500	49.000	.3361-01	.4071-01	.4553-01	QREF R=0.85	.58.80	.1.976	.4271	.4950-03
32	.00000	.90000	50.000	.2073-01	.2518-01	.2821-01	QREF R=0.85	.57.68	.1.200	.4341	.305.-03
30	.00000	.92500	51.000	.1752-01	.2122-01	.2373-01	QREF R=0.85	.58.90	.1.032	.4263	.2580-03
32	.00000	.95000	52.000	.1028-01	.1249-01	.1399-01	QREF R=0.85	.57.90	.5954	.4339	.1514-03
30	.00000	.97500	53.000	.6369-02	.-13-02	.8623-02	QREF R=0.85	.58.90	.3.751	.4262	.9377-04
32	.00000	.54.000	54.000	.2424-02	.2947-02	.3303-02	QREF R=0.85	.57.68	.1.398	.4360	.3571-04
32	.00000	.55.000	55.000	.3913-02	.4759-02	.5336-02	QREF R=0.85	.57.55	.2.252	.4372	.5766-04
32	.00000	.56.000	56.000	.8366-02	.1021-01	.1146-01	QREF R=0.85	.57.15	.4.793	.4410	.1237-03

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ARC 3.5-178 IH3

ORBITER BOTTOM CL

ARC 3.5-178 IH3

ORB BOTTOM CL.

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(RE1805)

RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/LBH	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.	ELEVON = .0000
36	5.300	.5031+07	406.1	1297.	316.8	.1750-01	.6269	.0000	
37	5.300	.5149+07	401.9	1270.	309.8	.1750-01	.6285	.0000	
38	5.300	.5055+07	406.0	1293.	315.8	.1750-01	.6282	.0000	
39	5.300	.5045+07	406.2	1295.	316.3	.1750-01	.6279	.0000	

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QOT BTU/FT2SEC	HT/HT	TH DEG. R	STN NO R=0.9
39	.00000	1.0000	.5224	.6415	.7240	.54.90	.28.68	.4612	.7759-02
39	.00000	.50000-02	.3330	.4087	.4611	.55.02	.18.32	.4501	.606.4
39	.00000	.10000-01	.3.0000	.2250	.2760	.3113	.55.14	.4589	.3338-02
39	.00000	.20000-01	4.0000	.1007	.1234	.1390	.55.44	.4561	.1492-02
39	.00000	.30000-01	5.0000	.6750-01	.8300-01	.9377-01	.53.11	.4645	.9966-03
37	.00000	.40000-01	6.0000	.4068-01	.4973-01	.5596-01	.55.98	.4508	.594.2
39	.00000	.50000-01	7.0000	.5811-01	.7124-01	.8031-01	.53.83	.4574	.6019-03
37	.00000	.60000-01	8.0000	.8563-01	.1045	.1174	.56.50	.4538	.8557-03
39	.00000	.70000-01	9.0000	.1280	.1566	.1762	.54.36	.4559	.1265-02
37	.00000	.80000-01	10.0000	.1492	.1819	.2043	.56.72	.4439	.1881-02
39	.00000	.90000-01	11.0000	.1868	.2263	.2568	.54.66	.4493	.2203-02
37	.00000	.10000+00	12.0000	.4883	.5954	.6687	.56.71	.4574	.2743-02
39	.00000	.12000	14.0000	.1682	.2051	.2303	.56.80	.4431	.7208-02
39	.00000	.13000	15.0000	.9059-01	.1105	.1241	.55.08	.4451	.2483-02
37	.00CCC9	.14000	16.0000	.5860-01	.7159-01	.8032-01	.57.10	.4403	.1328-02
39	.00CCC9	.15000	17.0000	.7674-01	.9353-01	.1050	.55.32	.4428	.8669-03
37	.00CCC9	.16000	18.0000	.7267-01	.8644-01	.9922-01	.57.18	.4426	.1124-02
39	.00CCC9	.17000	.19.0000	.7371-01	.8976-01	.1007	.55.54	.4395	.1071-02
37	.00CCC9	.18000	20.0000	.8402-01	.1022	.1146	.57.28	.4407	.1079-02
39	.00CCC9	.19000	21.0000	.9297-01	.1131	.1269	.55.73	.574.8	.1238-02
37	.00CCC9	.20000	22.0000	.8818-01	.1072	.1202	.57.49	.4385	.1360-02
39	.00CCC9	.22500	23.0000	.7719-01	.9369-01	.1049	.56.40	.566.7	.1299-02
37	.00CCC9	.25000	24.0000	.7885-01	.9576-01	.1073	.57.79	.4337	.1127-02
39	.00CCC9	.25.0000		.9281-01	.7646-01	.1039	.56.41	.571.6	.1160-02
37	.00CCC9						.4.313	.558.1	.1116-02

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QOT BTU/FT2SEC	HT/HT	TH DEG. R	STN NO R=0.9
39	.00000	1.0000	.5224	.6415	.7240	.54.90	.28.68	.4612	.607.9	.4944-02
39	.00000	.50000-02	.3330	.4087	.4611	.55.02	.18.32	.4501	.606.4	.3338-02
39	.00000	.10000-01	.3.0000	.2250	.2760	.3113	.55.14	.4589	.604.9	.1492-02
39	.00000	.20000-01	4.0000	.1007	.1234	.1390	.55.44	.4561	.601.1	.9966-03
39	.00000	.30000-01	5.0000	.6750-01	.8300-01	.9377-01	.53.11	.4645	.599.8	
37	.00000	.40000-01	6.0000	.4068-01	.4973-01	.5596-01	.55.98	.4508	.594.2	.6019-03
39	.00000	.50000-01	7.0000	.5811-01	.7124-01	.8031-01	.53.83	.4574	.590.7	.8557-03
37	.00000	.60000-01	8.0000	.8563-01	.1045	.1174	.56.50	.4538	.587.8	.1265-02
39	.00000	.70000-01	9.0000	.1280	.1566	.1762	.54.36	.4559	.584.0	.1881-02
37	.00000	.80000-01	10.0000	.1492	.1819	.2043	.56.72	.4439	.585.1	.2203-02
39	.00000	.90000-01	11.0000	.1868	.2263	.2568	.54.66	.4493	.580.2	.2743-02
37	.00000	.10000+00	12.0000	.4883	.5954	.6687	.56.71	.4574	.585.2	.7208-02
39	.00000	.12000	14.0000	.1682	.2051	.2303	.56.80	.4431	.584.1	.2483-02
39	.00000	.13000	15.0000	.9059-01	.1105	.1241	.55.08	.4451	.574.8	.1328-02
37	.00CCC9	.14000	16.0000	.5860-01	.7159-01	.8032-01	.57.10	.4403	.580.3	.8669-03
39	.00CCC9	.15000	17.0000	.7674-01	.9353-01	.1050	.55.32	.4428	.571.8	.1124-02
37	.00CCC9	.16000	18.0000	.7267-01	.8644-01	.9922-01	.57.18	.4426	.579.3	.1071-02
39	.00CCC9	.17000	.19.0000	.7371-01	.8976-01	.1007	.55.54	.4407	.569.1	.1079-02
37	.00CCC9	.18000	20.0000	.8402-01	.1022	.1146	.57.28	.4385	.578.0	.1238-02
39	.00CCC9	.19000	21.0000	.9297-01	.1131	.1269	.55.73	.4389	.566.7	.1360-02
37	.00CCC9	.20000	22.0000	.8818-01	.1072	.1202	.57.49	.4367	.575.6	.1299-02
39	.00CCC9	.22500	23.0000	.7719-01	.9369-01	.1049	.56.40	.4323	.558.2	.1127-02
37	.00CCC9	.25000	24.0000	.7885-01	.9576-01	.1073	.57.79	.4337	.571.6	.1160-02
39	.00CCC9	.25.0000		.9281-01	.7646-01	.1039	.4.313	.558.1	.1116-02	
37	.00CCC9									

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RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 O+T+S R=1.0	ARC 3.5-178 IH3 O+T+S R=0.9	ORB BOTTOM CL	QREF BTU/FT2SEC	QOT BTU/FT2SEC	H/H REF R=0.85	H/H REF R=0.9	HW/H/T	TH DEG. R	STN NO R=0.9
39	.00000	.30000	26.000	6475-01	.7812-01	.8756-01	57.52	3.697	4.362	575.0	575.0	.9462-03	
37	.00600	.32500	27.000	855-01	.1035	.1159	56.32	4.802	4.330	559.2	559.2	.1245-02	
39	.00000	.35000	28.000	.7342-01	.8927-01	.1001	57.48	4.220	4.366	575.5	575.5	.1081-02	
37	.00000	.37500	29.000	.6486-01	.1030	.1154	56.33	4.781	4.329	559.0	559.0	.1239-02	
39	.00000	.40000	30.000	.8213-01	.9983-01	.1119	57.56	4.728	4.359	574.5	574.5	.1209-02	
27	.00000	.42500	31.000	.8071-01	.9790-01	.1096	56.59	4.567	4.304	555.9	555.9	.1178-02	
39	.00000	.45000	32.000	.7186-01	.8729-01	.9779-01	57.72	4.147	4.344	572.6	572.6	.1057-02	
37	.00000	.47500	33.000	.6649-01	.8058-01	.9031-01	56.51	3.758	4.312	556.8	556.8	.9705-03	
39	.00000	.50000	34.000	.5865-01	.7128-01	.7989-01	57.57	3.376	4.358	574.5	574.5	.8634-03	
37	.00000	.52500	35.000	.6337-01	.7689-01	.8607-01	56.51	3.581	4.312	556.9	556.9	.9248-03	
39	.00000	.55000	36.000	.6606-01	.8027-01	.8994-01	57.64	3.608	4.351	573.6	573.6	.9723-03	
37	.00000	.57500	37.000	.6657-01	.8078-01	.9044-01	56.45	3.758	4.318	557.6	557.6	.9717-03	
39	.00000	.60000	38.000	.6219-01	.7562-01	.8478-01	57.45	3.573	4.369	575.9	575.9	.9159-03	
37	.00000	.62500	39.000	.5805-01	.7043-01	.7884-01	56.51	3.280	4.312	556.8	556.8	.8472-03	
39	.00000	.65000	40.000	.5447-01	.6617-01	.7413-01	57.74	3.145	4.342	572.3	572.3	.8015-03	
37	.00000	.67500	41.000	.5403-01	.6553-01	.7334-01	56.61	3.059	4.302	555.6	555.6	.7883-03	
39	.00000	.70000	42.000	.5227-01	.6416-01	.6416-01	57.72	2.722	4.343	572.5	572.5	.6938-03	
37	.00000	.72500	43.000	.4956-01	.6009-01	.6724-01	56.70	2.810	4.294	554.5	554.5	.7229-03	
39	.00000	.75000	44.000	.5187-01	.6297-01	.7051-01	57.89	3.002	4.328	570.5	570.5	.7628-03	
37	.00000	.77500	45.000	.1053	.1276	.1428	56.74	5.974	4.290	554.0	554.0	.1535-02	
39	.00000	.80000	46.000	.1663	.2021	.2263	57.75	9.665	4.341	572.2	572.2	.2447-02	
37	.00000	.82500	47.000	.1085	.1315	.1472	56.71	6.152	4.293	554.3	554.3	.1582-02	
39	.00000	.85000	48.000	.1415	.1717	.1922	57.95	8.199	4.321	569.6	569.6	.2080-02	
37	.00000	.87500	49.000	.6286-01	.7613-01	.8510-01	57.04	3.586	4.260	550.1	550.1	.9160-03	
39	.00000	.90000	50.000	.3344-01	.4056-01	.4539-01	58.14	1.944	4.304	567.3	567.3	.4914-03	
37	.00000	.92500	51.000	.2263-01	.2770-01	.3063-01	57.10	1.292	4.255	549.4	549.4	.3297-03	
39	.00000	.95000	52.000	.1323-01	.1613-01	.1805-01	58.18	.7740	4.300	566.8	566.8	.1955-03	
37	.00000	.97500	53.000	.8766-02	.1062-01	.1187-01	57.05	.5001	4.260	550.1	550.1	.1277-03	
39	.00000	.54.000	54.000	.5963-02	.7237-02	.8102-02	57.97	.3456	4.320	569.4	569.4	.8767-04	
39	.00000	.55.000	55.000	.7297-02	.8860-02	.9923-02	57.85	.4221	4.331	570.9	570.9	.1073-03	
39	.00000	.56.000	56.000	.6415-02	.7799-02	.8742-02	57.49	.3688	4.365	575.4	575.4	.9446-04	

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## PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	P0 PSIA	TO DEG. R	HD BTU/ LBM	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.	ELEVON = .0000
40	5.300	.1636+07	130.4	1287.	314.1	.1750-01	.26668	.0000	
41	5.300	.1582+07	126.6	1290.	315.0	.1750-01	.25866	.0000	
42	5.300	.1522+07	122.7	1296.	316.5	.1750-01	.25000	.0000	
43	5.300	.1516+07	123.1	1302.	318.0	.1750-01	.25000	.0000	

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HIT	HW/HIT	STN NO R=0.9
40	.00000	.00006	1.0000	.5664	.6935	.7811	.31.29	17.73	.4542	.594.7
40	.00000	.500000-02	2.0000	.3716	.4548	.5121	.31.35	11.65	.4534	.593.5
40	.00000	.100000-01	3.0000	.2500	.3059	.3444	.31.39	7.847	.4527	.592.7
40	.00000	.200000-01	4.0000	.1156	.1413	.1590	.31.50	3.641	.4507	.590.1
42	.00000	.200000-01	5.0000	.8268-01	.8268-01	.1002	.1120	.32.19	.4269	.563.2
42	.00000	.400000-01	6.0000	.6380-01	.7788-01	.8754-01	.31.73	2.024	.4469	.585.0
42	.00000	.500000-01	7.0000	.4813-01	.5827-01	.6514-01	.32.26	1.553	.4256	.561.5
42	.00000	.600000-01	8.0000	.3606-01	.4395-01	.4935-01	.31.97	1.153	.4429	.579.8
42	.00000	.760000-01	9.0000	.3035-01	.3674-01	.4106-01	.32.30	.9805	.4249	.560.6
42	.00000	.800000-01	10.0000	.2646-01	.3222-01	.3615-01	.32.10	.8492	.4407	.576.9
42	.00000	.900000-01	11.0000	.2355-01	.2850-01	.3185-01	.32.34	.7616	.4243	.559.8
42	.00000	.100000+00	12.0000	.1974-01	.2402-01	.2694-01	.32.22	.6359	.4386	.574.2
40	.00000	.120000	14.0000	.1680-01	.2043-01	.2291-01	.32.26	.5419	.4378	.573.2
42	.00000	.130000	15.0000	.1447-01	.1751-01	.1957-01	.32.34	.4679	.4243	.559.7
40	.00000	.140000	16.0000	.1276-01	.1552-01	.1740-01	.32.32	.4125	.4369	.571.9
42	.00000	.150000	17.0000	.1132-01	.1370-01	.1531-01	.32.35	.3663	.4242	.559.6
42	.00000	.160000	18.0000	.1070-01	.1301-01	.1458-01	.32.34	.3461	.4365	.571.4
42	.00000	.170000	19.0000	.9761-02	.1181-01	.1320-01	.32.34	.3157	.4242	.559.6
40	.00000	.180000	20.0000	.9388-02	.1141-01	.1279-01	.32.39	.3041	.4357	.570.4
42	.00000	.190000	21.0000	.9180-02	.1111-01	.1241-01	.32.35	.2969	.4242	.559.6
40	.00000	.200000	22.0000	.8102-02	.9641-02	.1102-01	.32.48	.2632	.4341	.568.3
42	.00000	.225000	23.0000	.5010-02	.6060-02	.6770-02	.32.40	.1623	.4233	.558.4
40	.00000	.250000	24.0000	.5441-02	.6602-02	.7391-02	.32.63	.1776	.4316	.565.0
42	.00000	.275000	25.0000	.4889-02	.5917-02	.6612-02	.32.33	.1581	.4244	.559.9

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HIT	HW/HIT	STN NO R=0.9
40	.00000	.00006	1.0000	.5664	.6935	.7811	.31.29	17.73	.4542	.594.7	.1475-01
40	.00000	.500000-02	2.0000	.3716	.4548	.5121	.31.35	11.65	.4534	.593.5	.9673-02
40	.00000	.100000-01	3.0000	.2500	.3059	.3444	.31.39	7.847	.4527	.592.7	.6506-02
40	.00000	.200000-01	4.0000	.1156	.1413	.1590	.31.50	3.641	.4507	.590.1	.3006-02
42	.00000	.200000-01	5.0000	.8268-01	.8268-01	.1002	.1120	.32.19	.4269	.563.2	.2209-02
40	.00000	.400000-01	6.0000	.6380-01	.7788-01	.8754-01	.31.73	2.024	.4469	.585.0	.1657-02
42	.00000	.500000-01	7.0000	.4813-01	.5827-01	.6514-01	.32.26	1.553	.4256	.561.5	.1285-02
42	.00000	.600000-01	8.0000	.3606-01	.4395-01	.4935-01	.31.97	1.153	.4429	.579.8	.9352-03
42	.00000	.760000-01	9.0000	.3035-01	.3674-01	.4106-01	.32.30	.9805	.4249	.560.6	.8106-03
40	.00000	.800000-01	10.0000	.2646-01	.3222-01	.3615-01	.32.10	.8492	.4407	.576.9	.6856-03
42	.00000	.900000-01	11.0000	.2355-01	.2850-01	.3185-01	.32.34	.7616	.4243	.559.8	.6288-03
42	.00000	.100000+00	12.0000	.1974-01	.2402-01	.2694-01	.32.22	.6359	.4386	.574.2	.5112-03
40	.00000	.120000	14.0000	.1680-01	.2043-01	.2291-01	.32.26	.5419	.4378	.573.2	.4349-03
42	.00000	.130000	15.0000	.1447-01	.1751-01	.1957-01	.32.34	.4679	.4243	.559.7	.3863-03
40	.00000	.140000	16.0000	.1276-01	.1552-01	.1740-01	.32.32	.4125	.4369	.571.9	.3303-03
42	.00000	.150000	17.0000	.1132-01	.1370-01	.1531-01	.32.35	.3663	.4242	.559.6	.3023-03
42	.00000	.160000	18.0000	.1070-01	.1301-01	.1458-01	.32.34	.3461	.4365	.571.4	.2769-03
42	.00000	.170000	19.0000	.9761-02	.1181-01	.1320-01	.32.34	.3157	.4242	.559.6	.2606-03
40	.00000	.180000	20.0000	.9388-02	.1141-01	.1279-01	.32.39	.3041	.4357	.570.4	.2429-03
42	.00000	.190000	21.0000	.9180-02	.1111-01	.1241-01	.32.35	.2969	.4242	.559.6	.2451-03
40	.00000	.200000	22.0000	.8102-02	.9641-02	.1102-01	.32.48	.2632	.4341	.568.3	.2095-03
42	.00000	.225000	23.0000	.5010-02	.6060-02	.6770-02	.32.40	.1623	.4233	.558.4	.1337-03
40	.00000	.250000	24.0000	.5441-02	.6602-02	.7391-02	.32.63	.1776	.4316	.565.0	.1406-03
42	.00000	.275000	25.0000	.4889-02	.5917-02	.6612-02	.32.33	.1581	.4244	.559.9	.1305-03

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RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 ORBITER		ORB BOTTOM CL	OREF BTU/ FT2SEC	ODCT BTU/ FT2SEC	HM/HIT	TH DEG. R	STN NO R=0.9
				H/HREF P=1.0	H/HREF R=0.9						
40	.00000	30000	26.000	4.324-02	.5250-02	.5879-02	.32.56	.1408	.4329	566.7	.1119-03
42	.00000	32500	27.000	.4420-02	.5350-02	.5979-02	.32.31	.1428	.4248	560.5	.1180-03
40	.00000	35000	28.000	.2945-02	.3575-02	.4004-02	.32.56	.9588-01	.4328	566.7	.7613-04
42	.00000	37500	29.000	.3922-02	.4748-02	.5306-02	.32.30	.1267	.4250	560.7	.1047-03
40	.00000	40000	30.000	.3395-02	.4728-02	.5294-02	.32.59	.1269	.4323	566.0	.1007-03
42	.00000	42500	31.000	.4193-02	.5081-02	.5677-02	.32.35	.1359	.4241	559.4	.1121-03
40	.00000	45000	32.000	.3992-02	.4844-02	.5442-02	.32.62	.1302	.4318	565.3	.1032-03
42	.00000	47500	33.000	.4650-02	.5629-02	.6291-02	.32.30	.1502	.4249	360.6	.1242-03
40	.00000	50000	34.000	.4938-02	.5949-02	.6711-02	.32.59	.1609	.4323	565.9	.1276-03
42	.00000	52500	35.000	.5213-02	.7520-02	.6405-02	.32.31	.2007	.4249	560.5	.1659-03
40	.00000	55000	36.000	.6167-02	.7484-02	.8319-02	.32.62	.2012	.4318	565.3	.1594-03
42	.00000	57500	37.000	.5739-02	.9247-02	.1034-01	.32.30	.2467	.4250	560.7	.2040-03
40	.00000	60000	38.000	.7553-02	.9532-02	.067-01	.32.58	.2558	.4325	566.2	.2030-03
42	.00000	62500	39.000	.1047-01	.1268-01	.117-01	.32.32	.3384	.4247	560.3	.2796-03
40	.00000	65000	40.000	.1012-01	.1228-01	.1374-01	.32.65	.3304	.4313	564.6	.2614-03
42	.00000	67500	41.000	.1211-01	.1465-01	.1637-01	.32.34	.3915	.4243	559.7	.3233-03
40	.00000	70000	42.000	.1212-01	.1470-01	.1646-01	.32.65	.3957	.4313	564.6	.3131-03
42	.00000	72500	43.000	.1397-01	.1690-01	.1899-01	.32.34	.4517	.4242	559.7	.3729-03
40	.00000	75000	44.000	.1512-01	.1834-01	.2053-01	.32.70	.4944	.4305	563.6	.3906-03
42	.00000	77500	45.000	.1595-01	.1931-01	.2157-01	.32.35	.5162	.4241	559.5	.4259-03
40	.00000	80000	46.000	.1991-01	.2415-01	.2703-01	.32.68	.6507	.4308	563.9	.5143-03
42	.00000	82500	47.000	.2171-01	.2627-01	.2815-01	.32.35	.7023	.4241	559.5	.5795-03
40	.00000	85000	48.000	.2252-01	.2731-01	.3037-01	.32.70	.7363	.4305	563.5	.5816-03
42	.00000	87500	49.000	.2177-01	.2634-01	.2943-01	.32.35	.7042	.4241	559.5	.3811-03
40	.00000	90000	50.000	.2135-01	.2592-01	.2900-01	.32.69	.6985	.4306	563.7	.5519-03
42	.00000	92500	51.000	.2064-01	.2497-01	.2791-01	.32.3L	.6675	.4242	559.6	.5510-03
40	.00000	95000	52.000	.1909-01	.2315-01	.2591-01	.32.72	.6245	.4302	563.1	.4930-03
42	.00000	97500	53.000	.1819-01	.2201-01	.2459-01	.32.35	.5884	.4241	559.5	.4856-03
40	.00000	1.00000	54.000	.1827-01	.2217-01	.2481-01	.32.65	.5964	.4243	564.7	.4720-03
40	.00000	1.02500	55.000	.1714-01	.2079-01	.2228-01	.32.63	.5592	.4316	565.1	.4428-03
40	.00000	1.05000	56.000	.1716-01	.2084-01	.2334-01	.32.53	.5583	.4333	567.3	.4437-03

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ORBITER BOTTOM CL

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068 BOTTOM CL

	RN/L	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOFL SLUG/ FT <sup>2</sup> SEC	ALPHA DEG.	ELEVON = .0000
44	5.300	.5112+07	406.4	1285.	313.6	1750-01	.8322	.0000		
45	5.300	.5036+07	406.2	1297.	316.7	1750-01	.8273	.0000		
46	5.300	.5003+07	405.9	1301.	317.9	1750-01	.8248	.0000		
47	5.300	.5392+07	404.9	1240.	302.0	1750-01	.8469	.0000		

## \*\*\*TEST CONDITIONS\*\*\*

RN/L = 5.000

BETA =

.0000

ALPHA =

.0000

ELEVON = .0000

## \*\*\*TEST DATA\*\*\*

RN/L

T/C NO

H/HREF

R=1.0

H/HREF

R=0.9

H/HREF

R=0.85

H/HREF

R=0.8

H/HREF

R=0.75

H/HREF

R=0.65

H/HREF

R=0.6

H/HREF

R=0.5

H/HREF

R=0.45

H/HREF

R=0.4

H/HREF

R=0.35

H/HREF

R=0.3

H/HREF

R=0.25

H/HREF

R=0.2

H/HREF

R=0.15

H/HREF

R=0.1

H/HREF

R=0.05

H/HREF

R=0.025

H/HREF

R=0.01

H/HREF

R=0.005

H/HREF

R=0.001

H/HREF

R=0.0005

H/HREF

R=0.0001

H/HREF

R=0.00005

H/HREF

R=0.00001

H/HREF

R=0.000005

H/HREF

R=0.000001

H/HREF

R=0.0000005

H/HREF

R=0.0000001

H/HREF

R=0.00000005

H/HREF

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H/HREF

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H/HREF

R=0.000000001

H/HREF

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H/HREF

R=0.0000000001

H/HREF

R=0.00000000005

H/HREF

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R=0.000000000005

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R=0.00000000000000000001

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R=0.000000000000000000000000000000000000001

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H/HREF

R=0.0005

H/HREF

R=0.0001

H/HREF

R=0.005

H/HREF

R=0.001

H/HREF

R=0.0005

H/HREF

R=0.0001

H/HREF

R=0.005

H/HREF

R=0.001

H/HREF

R=0.0005

H/HREF

R=0.0001

H/HREF

R=0.005

H/HREF

R=0.00000

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ARC 3.5-178 IH3

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(RE1807)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3	IH3 ORBITER	ORB BOTTOM CL	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	TH DEG. R	STN NO R=0.9
47	.00000	.30000	26.00	.6694-02 R=1.0	.8204-02 R=0.9	.9248-02 R=0.85	.4567 .3526	.574-9 577-1	.9666-04 1.214-03	
45	.00000	.32E-01	27.00	.9234-02	.1001-01	.1123-01	.4734 .4596	.4373 575-7	.1262-03 1.715-03	
47	.00000	.35000	28.00	.8736-02	.1071-01	.1207-01	.52-61	.4574 .4374	.57-7 57-3	
45	.00000	.37500	29.00	.1163-01	.1415-01	.1586-01	.57-47	.6686 .8616	.2360-03 2.946-03	
47	.00000	.40000	30.00	.1635-01	.2003-01	.2257-01	.52-71	.574-4 .4563	.2360-03 2.946-03	
47	.00000	.42500	31.00	.2431-01	.2723-01	.2723-01	.57-72	.1.155 .4350	.574-1 577-1	
45	.00000	.45000	32.00	.2262-01	.2795-01	.3148-01	.52-86	.1.206 .4548	.572-5 572-5	
47	.00000	.47500	33.00	.2286-01	.2778-01	.314-01	.57-61	.1.317 .4361	.575-5 3.368-03	
45	.00000	.50000	34.00	.2753-01	.3395-01	.3815-01	.52-75	.1.458 .4559	.573-9 3.988-03	
47	.00000	.52500	35.00	.654-01	.3482-01	.3902-01	.57-64	.1.651 .4358	.575-2 4.220-03	
47	.00000	.55000	36.00	.1.79-01	.3771-01	.4249-01	.52-82	.1.626 .4552	.573-0 4.443-03	
45	.00000	.57500	37.00	.375-01	.3758-01	.4190-01	.57-58	.1.771 .4364	.575-9 4.53-03	
47	.00000	.60000	38.00	.3784-01	.4024-01	.4535-01	.52-70	.1.730 .4565	.574-6 4.741-03	
45	.00000	.62500	39.00	.5397-01	.4008-01	.4492-01	.57-62	.1.900 .4360	.575-4 4.858-03	
45	.00000	.35000	40.00	.3245-01	.3973-01	.4475-01	.52-93	.1.718 .4541	.571-6 4.682-03	
47	.00000	.41.000	41.00	.3147-01	.3823-01	.4233-01	.57-77	.1.818 .4346	.573-5 4.635-03	
45	.00000	.47500	42.00	.3179-01	.3891-01	.4383-01	.52-96	.1.683 .4539	.571-3 4.585-03	
47	.00000	.72000	43.00	.3089-01	.3732-01	.4202-01	.57-88	.1.788 .4335	.572-1 4.448-03	
45	.00000	.72510	44.00	.750110	.750110	.4263-01	.53-08	.1.643 .4527	.569-8 4.462-03	
47	.03000	.77502	45.00	.2950-01	.3581-01	.4011-01	.57.93	.1.709 .4331	.571-5 4.342-03	
45	.00000	.80000	46.00	.3284-01	.4022-01	.4526-01	.53-01	.1.74-1 .4533	.570-6 4.736-03	
47	.00000	.82500	47.00	.3103-01	.3767-01	.4219-01	.57-94	.1.796 .4330	.571-4 4.567-03	
45	.00000	.85000	48.00	.3058-01	.3774-01	.4212-01	.53-09	.1.623 .4521	.569-6 4.408-03	
45	.00000	.87500	49.00	.2657-01	.3225-01	.3611-01	.58-03	.1.542 .4521	.570-3 3.910-03	
47	.00000	.90000	50.00	.2527-01	.3093-01	.3482-01	.53-07	.1.34-1 .4528	.569-9 3.644-03	
45	.00000	.92500	51.00	.2354-01	.2845-01	.3186-01	.58-03	.1.360 .4322	.570-3 3.449-03	
47	.00000	.95000	52.00	.2634-01	.2498-01	.2801-01	.52-12	.1.081 .4521	.569-1 2.932-03	
45	.00000	.97500	53.00	.2000-01	.2427-01	.2717-01	.58-07	.1.161 .4317	.569-7 2.942-03	
47	.00000	.1.0000	54.00	.1986-01	.2430-01	.2737-01	.53-04	.1.053 .4531	.570-3 2.864-03	
47	.00000	1.0255	55.00	.1.993-01	.2317-01	.2609-01	.53-01	.1.004 .4539	.570-7 2.730-03	
47	.00000	1.0500	56.00	.1.830-01	.2242-01	.2527-01	.52-72	.9647 .4562	.574-3 2.642-03	

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ARC 3.5-178 IH3

## HRC 3.5-178 IH3 ORBITER (TRIPS) OBS BOTTOM CL

## ORBITER BOTTOM CL

## PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOEL SLUG/FT SEC	ALPHA DEG.
48	5.300	.1533+07	123.1	1293.	315.7	.1750-01	.2511	.0000
49	5.300	.1526+07	122.7	1294.	315.9	.1750-01	.2502	.0000
50	5.300	.1431+07	118.7	1320.	322.6	.1750-01	.2392	.0000
51	5.300	.1495+07	121.6	1304.	318.4	.1750-01	.2469	.0000

RN/L = 1.500    BETA = .0000    ALPHA = .0000    ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT SEC	QOT BTU/FT SEC	HT HT
48	.00000	.62500	1.0000	.5662	.6934	.7812	.30.51	.17.28
48	.00000	.50000-02	2.0000	.3723	.4553	.5134	.30.57	.11.38
48	.00000	.10000-01	3.0000	.2516	.3080	.3468	.30.60	.7.700
48	.00000	.20000-01	4.0000	.1173	.1434	.1614	.30.74	3.605
50	.00000	.30000-01	5.0000	.8694-01	.1046	.1165	.33.34	2.899
48	.00000	.40000-01	6.0000	.6373-01	.7779-01	.3744-01	.30.98	1.974
50	.00000	.50000-01	7.0000	.5057-01	.6094-01	.5771-01	.33.43	1.691
48	.00000	.60000-01	8.0000	.3652-01	.4450-01	.4995-01	.31.24	1.141
50	.00000	.70000-01	9.0000	.3223-01	.3876-01	.31;3-01	.33.47	1.079
48	.00000	.80000-01	10.000	.2655-01	.3238-01	.3632-01	.31.40	.8352
50	.00000	.90000-01	11.000	.2478-01	.2979-01	.31.51	.33.51	.8305
48	.00000	.10000+00	12.000	.2044-01	.2496-01	.2787-01	.31.54	.6447
48	.00000	.12000	14.000	.1614-01	.1932-01	.2199-01	.31.60	.5101
50	.00000	.13000	15.000	.1196-01	.1438-01	.1600-01	.33.53	.4012
48	.00000	.14000	16.000	.1313-01	.1595-01	.1788-01	.31.67	.4158
50	.00000	.15000	17.000	.1543-01	.1723-01	.1917-01	.33.54	.4809
48	.00000	.16000	18.000	.1790-01	.2183-01	.2446-01	.31.69	.5695
50	.00000	.17000	19.000	.1833-01	.2204-01	.2452-01	.33.54	.6149
48	.00000	.18000	20.000	.1586-01	.1919-01	.2150-01	.31.71	.5016
50	.00000	.19000	21.000	.1523-01	.1831-01	.2037-01	.33.54	.5107
48	.00000	.20000	22.000	.1290-01	.1566-01	.1754-01	.31.83	.4108
50	.00000	.22500	23.000	.7675-02	.9224-32	.1026-01	.33.59	.2578
48	.00000	.25000	24.000	.1055-01	.1278-01	.1429-01	.32.01	.3373
50	.00000	.27500	25.000	.1346-01	.1618-01	.1800-01	.33.53	.4513

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT SEC	QOT BTU/FT SEC	HT DEG. R	STN NO R=0.9
48	.00000	.62500	1.0000	.5662	.6934	.7812	.30.51	.17.28	.4550	.598.6
48	.00000	.50000-02	2.0000	.3723	.4553	.5134	.30.57	.11.38	.4540	.597.3
48	.00000	.10000-01	3.0000	.2516	.3080	.3468	.30.60	.7.700	.4535	.596.6
48	.00000	.20000-01	4.0000	.1173	.1434	.1614	.30.74	3.605	.4512	.593.6
50	.00000	.30000-01	5.0000	.8694-01	.1046	.1165	.33.34	2.899	.4087	.449.4
48	.00000	.40000-01	6.0000	.6373-01	.7779-01	.3744-01	.30.98	1.974	.4469	.588.0
50	.00000	.50000-01	7.0000	.5057-01	.6094-01	.5771-01	.33.43	1.691	.4073	.447.5
48	.00000	.60000-01	8.0000	.3652-01	.4450-01	.4995-01	.31.24	1.141	.4424	.582.3
50	.00000	.70000-01	9.0000	.3223-01	.3876-01	.4133-01	.33.47	1.079	.4064	.546.4
48	.00000	.80000-01	10.000	.2655-01	.3238-01	.3632-01	.31.40	.8352	.4397	.578.5
50	.00000	.90000-01	11.000	.2478-01	.2979-01	.31.51	.33.51	.8305	.4557	.676.5
48	.00000	.10000+00	12.000	.2044-01	.2496-01	.2787-01	.31.54	.6447	.4372	.575.3
48	.00000	.12000	14.000	.1614-01	.1932-01	.2199-01	.31.60	.5101	.4362	.573.9
50	.00000	.13000	15.000	.1196-01	.1438-01	.1600-01	.33.53	.4012	.4055	.545.1
48	.00000	.14000	16.000	.1313-01	.1595-01	.1788-01	.31.67	.4158	.4350	.572.3
50	.00000	.15000	17.000	.1543-01	.1723-01	.1917-01	.33.54	.4809	.4052	.544.8
48	.00000	.16000	18.000	.1790-01	.2183-01	.2446-01	.31.69	.5695	.4346	.571.8
50	.00000	.17000	19.000	.1833-01	.2204-01	.2452-01	.33.54	.6149	.4054	.544.9
48	.00000	.18000	20.000	.1586-01	.1919-01	.2150-01	.31.71	.5016	.4338	.570.7
50	.00000	.19000	21.000	.1523-01	.1831-01	.2037-01	.33.54	.5107	.4054	.544.9
48	.00000	.20000	22.000	.1290-01	.1566-01	.1754-01	.31.83	.4108	.4350	.572.3
50	.00000	.22500	23.000	.7675-02	.9224-32	.1026-01	.33.59	.2578	.4044	.543.6
48	.00000	.25000	24.000	.1055-01	.1278-01	.1429-01	.32.01	.3373	.4292	.564.6
50	.00000	.27500	25.000	.1346-01	.1618-01	.1800-01	.33.53	.4513	.4054	.545.1

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APC 3.5-178 1Hc

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(RE 1B08)

RUN NUMBER	PHI	T/C NO	H/HF P=0.9	ARC 78 1H3 ORBITER / RIPS)			QREF BTU/ FT2SEC	ODOT BTU/ FT2SEC	STN NO R+0.S
				H/HF	H/HREF P=0.85	TH DEG. R			
48	.00000	32000	.1311-11	.130-01	.1779-01	31.95	.4182	.4302	.3496-03
48	.00000	32500	.375-01	.652-01	.1829-01	33.51	.4608	.4057	.3756-03
48	.00000	36000	.517-01	-	.1788-01	31.94	.4202	.566.0	.3513-03
50	.00000	37500	.1373-01	.550-01	.1816-01	33.51	.4599	.4059	.3750-03
48	.02000	35000	.1551-01	.881-01	.205-01	21.5	.4959	.4299	.565.6
50	.02000	35000	.1544-01	.856-01	.2065-01	33.51	.5184	.4048	.4217-03
50	.02000	35000	.32-01	.958-01	.2079-01	31.99	.4903	.4294	.4065-03
50	.02000	35000	.329-01	.718-01	.1912-01	33.51	.4790	.4058	.3904-03
48	.00000	35000	.1750-01	.550-01	.1819-01	31.96	.4796	.4297	.565.5
50	.00000	35000	.1716-01	.2063-01	.2035-01	33.52	.5752	.4056	.4000-03
48	.00000	35000	.35-01	.747-01	.219-01	32.0	.3591	.4293	.564.9
50	.00000	35000	.350-01	.192-01	.2371-01	32.0	.6376	.4059	.515.6
48	.00000	35000	.575-01	.377-00	.2886-01	33.51	.6222	.4302	.565.9
50	.00000	35000	.50-01	.474-01	.2362-01	33.51	.7194	.4054	.585-03
48	.00000	35000	.625-00	.39-00	.2579-01	33.53	.6557	.4289	.564.3
48	.00000	35000	.65000	.40-00	.2483-01	32.02	.7366	.4050	.545-03
50	.00000	35000	.67500	.41-00	.2639-01	33.56	.641	.5995-03	.4659-03
48	.00000	35000	.70000	.42-00	.2052-01	32.01	.6474	.4292	.515.6
50	.00000	35000	.72500	.43-00	.2168-01	32.01	.6474	.4050	.5192-03
48	.00000	35000	.75000	.44-00	.209-01	33.56	.6694	.4286	.563.7
50	.00000	35000	.77500	.45-00	.2126-01	33.51	.7137	.4048	.5807-03
48	.00000	35000	.80000	.46-00	.2179-01	32.02	.6978	.289	.564.3
50	.00000	35000	.82500	.47-00	.2215-01	32.01	.7449	.4049	.5809-03
48	.00000	35000	.85000	.48-00	.2052-01	32.01	.6474	.4292	.5393-03
50	.00000	35000	.87500	.49-00	.2032-01	33.56	.6918	.4287	.5757-03
48	.00000	35000	.90000	.50-00	.209-01	32.04	.6721	.4048	.5467-03
50	.00000	35000	.92500	.51-00	.173-01	32.02	.5806	.4290	.4934-03
48	.00000	35000	.95000	.52-00	.153-01	33.57	.5951	.4048	.4842-03
50	.00000	35000	.97500	.53-00	.1519-01	32.02	.5101	.4289	.6061-03
48	.00000	35000	.1.00000	.54-00	.1425-01	31.91	.4547	.4047	.4449-03
48	.00000	35000	.1.02500	.56-00	.1279-01	31.97	.4075	.4309	.3801-03
48	.00000	35000	.1.05000	.58-00	.1241-01	31.74	.3941	.4337	.3412-03

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ARC 3.5-178 1H3

## ORBITTER BOTTOM CL

ARC 3.5-178 1H3

(RE 1809)

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TRIPS) ORB BOTTOM CL

PARAMETRIC DATA

RN/L = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\* TEST CONDITIONS \*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	T0 DEG. R	HC LBH	RS FT	PHOVEL SLUG/FT SEC	ALPHA DEG.
52	5.300	.5053+07	405.5	1292.	315.6	.1750-01	.8274	.0000
53	5.300	.5027+07	405.4	1299.	317.2	.1750-01	.8269	.0000
54	5.300	.5137+07	405.1	1278.	312.0	.1750-01	.8320	.0000
55	5.300	.4987+07	402.9	1298.	317.0	.1750-01	.8201	.0000

## \*\*\* TEST DATA \*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT SEC	QDOT BTU/FT SEC	HW/HF	TW DEG. R	STN NO R=0.9
55	.00000	1.0000		.5374	.6650	.7546	.52.96	.4789	632.6	.8080-02
55	.00000	.50000-02		.3608	.4462	.5060	.53.13	.4773	630.5	.5422-02
55	.00000	.10000-01	3.0000	.2484	.3070	.3481	.53.24	.4762	629.2	.3731-02
55	.00000	.20000-01	4.0000	.1174	.1443	.1641	.53.59	.4728	624.7	.1761-02
55	.00000	.30000-01	5.0000	.8143.01	.9971-01	.1123	.55.78	.4545	600.8	.1208-02
55	.00000	.40000-01	6.0000	.6244-01	.7683-01	.8684-01	.54.29	.4662	615.9	.9342-03
55	.00000	.50000-01	7.0000	.4657-01	.5690-01	.6400-01	.56.33	.4493	593.9	.6897-03
55	.00000	.60000-01	8.0000	.3504-01	.4299-01	.4849-01	.55.00	.4594	606.9	.5229-03
55	.00000	.70000-01	9.0000	.2683.01	.3639-01	.4089-01	.56.72	.4456	589.9	.4412-03
55	.00000	.80000-01	10.0000	.2459-01	.3012-01	.3393-01	.55.43	.4553	601.5	.3664-03
55	.00030	.90000-01	11.0000	.2281-01	.2780-01	.3121-01	.56.99	.4430	585.5	.3370-03
55	.00020	.10000+00	12.0000	.1687-01	.2308-01	.2598-01	.55.79	.4418	558.9	.2809-03
55	.00000	.12000	14.0000	.1376-01	.1682-01	.1893-01	.55.93	.4597	505.2	.2047-03
55	.00000	.13000	15.0000	.0107-02	.9872-02	.1108-01	.57.21	.4638	582.7	.1197-03
55	.00000	.14000	16.0000	.1457-01	.1779-01	.2001-01	.56.12	.8174	.4487	.2165-03
55	.00000	.15000	17.0000	.2271-01	.2765-01	.3103-01	.57.30	.1.301	.581.7	.3354-03
55	.00300	.13000	18.0000	.3380-01	.4128-01	.4641-01	.56.17	.4498	.592.1	.5024-03
55	.00000	.17000	19.0000	.3810-01	.4637-01	.5232-01	.57.37	.4394	.580.8	.5624-03
55	.00000	.18000	20.0000	.3811-01	.4652-01	.5229-01	.56.32	.4467	.590.2	.5662-03
55	.00000	.19000	21.0000	.4339-01	.5278-01	.5920-01	.57.45	.4386	.579.8	.6402-03
55	.00000	.20000	22.0000	.3974-01	.4645-01	.5441-01	.56.63	.4430	.586.3	.5898-03
55	.00000	.22500	23.0000	.3223-01	.3914-01	.4383-01	.58.04	.4331	.572.4	.4748-03
55	.00000	.25000	24.0000	.3941-01	.4792-01	.5373-01	.57.35	.4370	.577.3	.5836-03
55	.00000	.25.000		.4004-01	.4866-01	.5452-01	.57.80	.4353	.575.4	.5902-03

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RUN NUMBER	PHI	Y/R	T.C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	ODOT BTU/FT2SEC	ODOT BTU/FT2SEC	ODOT BTU/FT2SEC	TH DEG. R	TH DEG. R	STN NO R=0.9
55	.00000	.30000	26.000	.3568-01	.4345-01	.4875-01	.56.99	2.034	.4404	.581.8	.529.0	.529.0-03
53	.00000	.32500	27.000	.3935-01	.4724-01	.5295-01	.57.67	2.241	.4365	.577.0	.573.0	.573.0-03
55	.00000	.35000	28.000	.3104-01	.3779-01	.424-01	.56.97	1.768	.4406	.582.1	.460.1	.460.1-03
53	.00000	.37500	29.000	.3851-01	.4683-01	.5249-01	.57.56	2.221	.4366	.577.1	.568.0	.568.0-03
55	.00000	.40000	30.000	.3593-01	.4372-01	.4904-01	.57.13	2.052	.4391	.580.1	.5324	.5324-03
53	.00000	.42500	31.000	.3367-01	.4090-01	.4581-01	.57.92	1.950	.4241	.573.8	.496.1	.496.1-03
55	.00000	.45000	32.000	.3249-01	.3951-01	.4429-01	.57.33	1.862	.4372	.577.6	.481.1	.481.1-03
53	.00000	.47500	33.000	.3193-01	.3879-01	.4347-01	.57.84	1.847	.4350	.574.9	.470.6	.470.6-03
55	.00000	.50000	34.000	.3062-01	.3725-01	.4177-01	.57.22	1.752	.4382	.579.0	.4536	.4536-03
53	.00000	.52500	35.000	.2981-01	.3500-01	.3922-01	.57.67	1.667	.4347	.574.5	.4246	.4246-03
55	.00000	.55000	35.000	.2925-01	.3555-01	.3967-01	.57.35	1.677	.4369	.577.2	.4331	.4331-03
53	.00000	.57500	37.000	.2856-01	.7474-01	.3993-01	.57.82	1.653	.4352	.575.2	.4214	.4214-03
55	.00000	.60000	38.000	.2852-01	.3528-01	.3956-01	.57.17	1.657	.4387	.579.6	.4296	.4296-03
53	.00000	.62500	39.000	.2942-01	.3574-01	.4004-01	.57.87	1.72	.4347	.574.6	.4335	.4335-03
55	.00000	.65000	40.000	.2784-01	.3383-01	.3791-01	.57.54	1.602	.4352	.574.9	.4121	.4121-03
53	.00000	.67500	41.000	.2711-01	.3292-01	.3738-01	.58.00	1.573	.4334	.572.8	.3994	.3994-03
55	.00000	.70000	42.000	.2615-01	.3177-01	.3561-01	.57.53	1.504	.4353	.575.1	.3870	.3870-03
53	.00000	.72500	43.000	.2628-01	.3190-01	.3571-01	.58.12	1.527	.4323	.571.4	.3870	.3870-03
55	.00000	.75000	44.000	.2508-01	.3046-01	.3411-01	.57.72	1.448	.4334	.572.6	.3710	.3710-03
53	.00000	.77500	45.000	.2458-01	.2583-01	.3339-01	.58.18	1.430	.4317	.570.6	.3619	.3619-03
55	.00000	.80000	46.000	.2650-01	.3219-01	.3606-01	.57.62	1.527	.4344	.573.9	.3921	.3921-03
53	.00000	.82500	47.000	.2586-01	.3186-01	.3513-01	.58.22	1.506	.4313	.570.1	.3808	.3808-03
55	.00000	.85000	48.000	.2473-01	.3003-01	.3363-01	.57.79	1.429	.4328	.571.8	.3658	.3658-03
53	.00000	.87500	49.000	.2216-01	.2659-01	.3009-01	.58.30	1.292	.4306	.569.2	.3262	.3262-03
55	.00000	.90000	50.000	.2032-01	.2467-01	.2763-01	.57.76	1.174	.4330	.572.1	.3005	.3005-03
53	.00000	.92500	51.000	.1954-01	.2370-01	.2653-01	.58.30	1.139	.4305	.569.2	.2876	.2876-03
55	.00000	.95000	52.000	.1688-01	.2049-01	.2294-01	.57.88	.9770	.4319	.570.6	.2496	.2496-03
53	.00000	.97500	53.000	.1613-01	.1957-01	.2190-01	.58.33	.9411	.4303	.568.7	.2374	.2374-03
55	.00000	1.00000	54.000	.1569-01	.1906-01	.2136-01	.57.61	.9039	.4345	.574.1	.2322	.2322-03
55	.00000	1.02500	55.000	.151-01	.1836-01	.2058-01	.57.45	.8678	.4360	.576.1	.2236	.2236-03
55	.00000	1.05000	56.000	.1467-01	.1786-01	.2005-01	.56.96	.8357	.4406	.582.2	.2175	.2175-03

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ORB BOTTOM CL

RUN NUMBER	MACH	RN/L PER FT	FO PSIA	TO DEG. R	HQ BTU/LBM	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.	ELEVON = .0000
70	5.300	.4906+.07	407.3	1320.	322.8	.1750-.01	.8205	-5.000	
71	5.300	.5000+.07	406.8	1303.	316.4	.1750-.01	.8258	-5.000	
72	5.300	.4987+.07	403.9	1300.	317.5	.1750-.01	.8213	-5.000	

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	QDOL BTU/FT2SEC	HM/HF	HM/HF	TW DEG. R	TM DEG. R	STN NO R=0.9	
70	.00000	.00000	1.0000	.6268	.7616	.8533	.58.93	.439	.585	.0	.5328-02		
70	.00000	.50000-02	2.0000	.4018	.4980	.5466	.59.04	.434	.583	.8	.5977-02		
70	.00000	.10000-01	3.0000	.2693	.3254	.3655	.59.21	.432	.592	.1	.3999-02		
70	.00000	.20000-01	4.0000	.1220	.1479	.1656	.59.51	.429	.578	.5	.1813-02		
71	.00000	.30000-01	5.0000	.0300	.0353-01	.1019	.1145	.4756	.591	.7	.1238-02		
70	.00000	.40000-01	6.0000	.6337-01	.7672-01	.8576-01	.60.01	.4253	.572	.1	.9403-03		
71	.00000	.50000-01	7.0000	.4478-01	.5454-01	.6122-01	.57.44	.4413	.585	.5	.627-03		
70	.00000	.60000-01	8.0000	.2827-01	.3417-01	.3916-01	.60.47	.421	.566	.4	.4189-03		
70	.00000	.70000-01	9.0000	.4155-01	.5055-01	.5670-01	.57.76	.4200	.591	.5	.6144-03		
70	.00000	.60000-01	10.000	.7219-01	.8721-01	.9733-01	.60.66	.4379	.563	.9	.1069-02		
71	.00000	.90000-01	11.000	.1225	.1490	.1671	.57.86	.7091	.4373	.530	.2	.1811-02	
70	.00000	.10000-00	12.000	.2401	.2901	.3239	.60.58	.4200	.564	.9	.3557-02		
70	.00000	.12000-00	14.000	.3440	.4518	.5042	.60.66	.22.69	.563	.9	.5539-02		
71	.00000	.13000	15.000	.1718	.2088	.2340	.73.05	.9.974	.577	.8	.2538-02		
70	.00000	.14000	16.000	.8147-01	.9831-01	.1173	.60.99	.4.969	.4162	.559	.8	.1205-02	
71	.00000	.15000	17.000	.4651-01	.5891-01	.6599-01	.58.23	.2.825	.4338	.575	.6	.7161-03	
70	.00000	.16000	18.000	.4307-01	.5196-01	.5794-0	.61.08	.2.631	.4154	.558	.8	.6371-03	
71	.00000	.17000	19.000	.4697-01	.5703-01	.6397-0	.58.33	.2.740	.4328	.574	.4	.5933-03	
70	.00000	.18000	20.000	.5162-01	.6226-01	.6941-01	.61.14	.3.156	.4149	.558	.1	.7634-03	
71	.00000	.19000	21.000	.5070-01	.6154-01	.6890-01	.58.39	.2.960	.4323	.573	.6	.7481-03	
70	.00000	.20000	22.000	.4423-01	.5333-01	.5944-01	.61.27	.2.710	.4136	.556	.3	.6540-03	
71	.00000	.22500	23.000	.9249-01	.1121	.1253	.58.91	.5.448	.4274	.567	.1	.1363-02	
70	.00000	.25000	24.000	.1102	.1327	.1479	.61.47	.6.773	.4117	.553	.8	.1628-02	
71	.00000	.27500	25.000	.1244	.1508	.1687	.58.65	.7.293	.4298	.570	.4	.1833-02	
70	.00000	.30000	26.000	.9662-01	.1165	.1299	.61.24	.5.917	.4139	.556	.8	.1429-02	

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RUN NUMBER	PHI	X_L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	ORB BOTTOM CL	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	TH DEG. R	STN NO R=0.9
71	.00000	.3E200	27.000	.5627-01	.1046	.1171	58.56	5.051	.1272-02	571 5	.9977-03
70	.00000	.35220	28.000	.5745-01	.8136-01	.9071-01	61.12	4.123	.4150	558 3	.346-02
71	.00000	.37500	29.000	.9129-01	.1107	.1240	58.54	5.344	.4308	571 7	.176-02
70	.00000	.40000	30.000	.7951-01	.9586-01	.1068	61.27	4.872	.4136	556 4	.167-02
71	.00000	.42500	31.000	.7917-01	.735-01	.1073	58.82	4.657	.4282	568 3	.1451-02
70	.00000	.45000	32.000	.9321-01	.1183	.1318	61.44	6.034	.4120	554 2	
71	.00000	.47500	33.000	.8907-01	.1080	.1208	58.73	5.231	.4291	569 4	.1313-02
70	.00000	.50000	34.000	.9115-01	.9783-01	.1090	61.27	4.972	.4137	556 4	.1200-02
71	.00000	.52500	35.000	.7587-01	.9563-01	.1070	58.72	4.631	.4292	569 5	.1163-02
70	.00000	.55000	36.000	.7335-01	.6841-01	.9892-01	61.36	4.501	.4129	555 2	.1084-02
71	.00000	.57500	37.000	.8253-01	.8318-01	.9309-01	58.61	4.020	.4301	570 8	.1011-02
70	.00000	.60000	38.000	.7325-01	.6838-01	.9353-01	61.18	4.493	.4145	557 6	.1084-02
71	.00000	.62500	39.000	.7407-01	.6983-01	.1105	58.63	4.343	.4300	570 6	.1092-02
70	.00000	.65000	40.000	.6904-01	.6320-01	.9271-01	61.39	4.238	.4125	554 9	.1020-02
71	.00000	.67500	41.000	.6794-01	.6235-01	.6212-01	58.78	3.993	.4286	568 7	.1001-02
70	.00000	.70000	42.000	.6370-01	.7675-01	.8351-01	61.45	3.915	.4119	554 1	.9413-03
71	.00000	.72500	43.000	.6151-01	.7454-01	.8337-01	58.86	3.620	.4278	567 7	.9064-03
70	.00000	.75000	44.000	.8912-01	.1073	.1196	61.58	5.488	.4108	552 6	.1316-02
71	.00000	.77500	45.000	.9333-01	.1131	.1265	58.88	5.496	.4276	567 4	.1375-02
70	.00000	.80000	46.000	.1561	.1890	.2095	61.46	9.591	.4119	554 1	.2306-02
71	.00000	.82500	47.000	.1871	.2267	.2535	58.83	11.01	.4281	568 0	.2757-02
70	.00000	.85000	48.000	.1467	.1767	.1957	61.65	9.044	.4101	551 6	.2167-02
71	.00000	.87500	49.000	.6426-01	.7779-01	.8539-01	59.15	3.800	.4251	564 1	.9460-03
70	.00000	.90000	50.000	.3525-01	.4243-01	.4723-01	61.84	2.180	.4083	549 3	.5204-03
71	.00000	.92500	51.000	.2574-01	.3115-01	.3481-01	59.23	1.524	.4244	563 1	.3788-03
70	.00000	.95000	52.000	.1669-01	.2017-01	.2235-01	61.84	1.032	.4083	549 2	.2462-03
71	.00000	.97500	53.000	.1065-01	.1291-01	.1443-01	59.19	.6313	.4247	563 6	.1570-03
70	.00000	.1.0000	54.000	.7421-02	.8934-02	.9947-02	61.72	.4580	.4095	550 8	.1096-03
70	.00250	.56.000	.3142-02	.3783-02	.4212-02	.61.71	.1939	.4096	.550 9	.4640-04	
70	.00500	.58.000	.3452-02	.4160-02	.4636-02	.61.39	.2119	.4125	.554 9	.5102-04	

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ORB BOTTOM CL

	RN/L	MACH	RN/L PER FT	PO PSIA	TG DEG. R	HO BTU/LB	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.	ELEVON	.0000
74	5.300	.5051+07	406.7	1295.	316.3	1750-01	.8289	-3.000			
76	5.300	.5017+07	406.9	1301.	317.8	1750-01	.8270	-3.000			
79	5.300	.4907+07	406.9	1309.	319.8	1750-01	.8241	.0000			

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	PO PSIA	TG DEG. R	HO BTU/LB	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.	ELEVON	
74	.00000	1.0000	.5738	.7027	.7917	55.59	31.90	.4550	599.9	.8498-02		
74	.00000	2.0000	.3786	.4636	.5221	55.67	21.08	.4543	598.9	.5606-02		
74	.10000-01	3.0000	.2546	.3116	.3509	55.79	14.21	.4531	597.4	.3769-02		
74	.00000	4.0000	.20000-01	.116~	.1595	56.10	6.505	.4502	593.5	.1715-02		
74	.00000	6.0000	.40000-01	.5669-01	.6914-01	7766-01	56.70	3.214	.4495	586.0	.8365-03	
74	.00000	8.0000	.60000-01	.5215-01	.4285-01	.5850-01	57.25	2.453	.4393	579.1	.6312-03	
74	.00000	10.000	.80000-01	.1192	.1449	.1625	57.50	6.853	.4359	575.9	.1754-02	
74	.00000	12.000	.10000+00	.4049	.4923	.5519	57.50	.23.28	.4369	576.0	.5960-02	
74	.00000	14.000	.12000	.2535	.3082	.3454	57.58	14.60	.4362	575.0	.3731-02	
74	.00000	16.000	.14000	.5687-01	.6905-01	.7732-01	57.93	3.295	.4328	570.5	.8360-03	
74	.00000	18.000	.16000	.4403-01	.5343-01	.5982-01	58.05	2.556	.4317	569.0	.6470-03	
74	.00000	20.000	.18000	.6047-01	.7336-01	.8211-01	58.15	3.517	.4307	567.8	.8883-03	
74	.00000	22.000	.20000	.4334-01	.5253-01	.5977-01	58.34	2.528	.4289	565.4	.6362-03	
74	.00000	24.000	.25000	.9549-01	.1156	.1293	58.66	5.601	.4259	561.5	.1401-02	
74	.00000	26.000	.30000	.7375-01	.8940-01	.1000	58.34	4.303	.4289	565.4	.1083-02	
74	.00000	28.000	.35000	.5933-01	.7230-01	.8089-01	58.30	3.477	.4293	565.9	.8756-03	
74	.00000	30.000	.40000	.7412-01	.8983-01	.1005	58.42	4.330	.4282	564.4	.1088-02	
74	.00000	32.000	.45000	.8284-01	.1003	.1122	58.62	4.856	.4262	561.9	.1215-02	
74	.00000	34.000	.50000	.7164-01	.8682-01	.9710-01	58.43	4.186	.4280	564.3	.1051-02	
74	.00000	36.000	.55000	.6505-01	.7881-01	.8812-01	58.54	3.808	.4270	562.9	.9545-03	
74	.00000	37.000	.57500	.6325-01	.7699-01	.P636-01	57.91	3.663	.4394	585.7	.9379-03	
74	.00000	38.000	.60000	.6512-01	.7894-01	.8832-01	58.35	3.800	.4288	565.3	.9560-03	
79	.00000	39.000	.62500	.6354-01	.7734-01	.8676-01	57.89	3.679	.4396	585.9	.9422-03	
74	.00000	40.000	.65000	.6264-01	.7594-01	.8496-01	58.32	3.653	.4291	565.7	.9196-03	
79	.00000	41.000	.67500	.5390-01	.6557-01	.7353-01	58.05	3.129	.4381	583.9	.7988-03	

PARAMETRIC DATA

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	PO PSIA	TG DEG. R	HO BTU/LB	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.	ELEVON	
74	.00000	1.0000	.5738	.7027	.7917	55.59	31.90	.4550	599.9	.8498-02		
74	.00000	2.0000	.3786	.4636	.5221	55.67	21.08	.4543	598.9	.5606-02		
74	.10000-01	3.0000	.2546	.3116	.3509	55.79	14.21	.4531	597.4	.3769-02		
74	.00000	4.0000	.20000-01	.116~	.1595	56.10	6.505	.4502	593.5	.1715-02		
74	.00000	6.0000	.40000-01	.5669-01	.6914-01	7766-01	56.70	3.214	.4495	586.0	.8365-03	
74	.00000	8.0000	.60000-01	.5215-01	.4285-01	.5850-01	57.25	2.453	.4393	579.1	.6312-03	
74	.00000	10.000	.80000-01	.1192	.1449	.1625	57.50	6.853	.4359	575.9	.1754-02	
74	.00000	12.000	.10000+00	.4049	.4923	.5519	57.50	.23.28	.4369	576.0	.5960-02	
74	.00000	14.000	.12000	.2535	.3082	.3454	57.58	14.60	.4362	575.0	.3731-02	
74	.00000	16.000	.14000	.5687-01	.6905-01	.7732-01	57.93	3.295	.4328	570.5	.8360-03	
74	.00000	18.000	.16000	.4403-01	.5343-01	.5982-01	58.05	2.556	.4317	569.0	.6470-03	
74	.00000	20.000	.18000	.6047-01	.7336-01	.8211-01	58.15	3.517	.4307	567.8	.8883-03	
74	.00000	22.000	.20000	.4334-01	.5253-01	.5977-01	58.34	2.528	.4289	565.4	.6362-03	
74	.00000	24.000	.25000	.9549-01	.1156	.1293	58.66	5.601	.4259	561.5	.1401-02	
74	.00000	26.000	.30000	.7375-01	.8940-01	.1000	58.34	4.303	.4289	565.4	.1083-02	
74	.00000	28.000	.35000	.5933-01	.7230-01	.8089-01	58.30	3.477	.4293	565.9	.8756-03	
74	.00000	30.000	.40000	.7412-01	.8983-01	.1005	58.42	4.330	.4282	564.4	.1088-02	
74	.00000	32.000	.45000	.8284-01	.1003	.1122	58.62	4.856	.4262	561.9	.1215-02	
74	.00000	34.000	.50000	.7164-01	.8682-01	.9710-01	58.43	4.186	.4280	564.3	.1051-02	
74	.00000	36.000	.55000	.6505-01	.7881-01	.8812-01	58.54	3.808	.4270	562.9	.9545-03	
74	.00000	37.000	.57500	.6325-01	.7699-01	.P636-01	57.91	3.663	.4394	585.7	.9379-03	
74	.00000	38.000	.60000	.6512-01	.7894-01	.8832-01	58.35	3.800	.4288	565.3	.9560-03	
79	.00000	39.000	.62500	.6354-01	.7734-01	.8676-01	57.89	3.679	.4396	585.9	.9422-03	
74	.00000	40.000	.65000	.6264-01	.7594-01	.8496-01	58.32	3.653	.4291	565.7	.9196-03	
79	.00000	41.000	.67500	.5390-01	.6557-01	.7353-01	58.05	3.129	.4381	583.9	.7988-03	

DATE 24 JAN 76

ARC 3.5-178 IH3

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(RE1B20)

RUN NUMBER	PHI	X/L	T/C NO	ARC 3.5-178 IH3 0+T+S		ORB BOTTOM CL	QOT BTU/FT2SEC	QHT BTU/FT2SEC	TH DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9					
74	.00000	.70000	42.000	.6223-01	.7536-01	6424-01	58.65	3.650	.4259	561.5
79	.00000	.72500	43.000	.5965-01	.7253-01	.8131-01	58.17	3.469	.4370	582.4
74	.00000	.75000	44.000	.7396-01	.8951-01	1.000	58.80	4.348	.4246	559.7
79	.00000	.77500	45.000	.8361-01	.1017	.1140	58.19	4.866	.4367	582.1
74	.00000	.80000	46.000	.1237	.1498	.1674	58.67	7.257	.4257	561.2
79	.00000	.82500	47.000	.1687	.2052	.2300	58.15	9.813	.4371	582.6
74	.00000	.85000	48.000	.1285	.1555	.1735	58.90	7.571	.4236	558.4
79	.00000	.87500	49.000	.5592-01	.6514-01	.7745-01	58.48	3.329	.4341	578.5
74	.00000	.90000	50.000	.3256-01	.3937-01	.4397-01	59.10	1.924	.4217	555.9
79	.00000	.92500	51.000	.2090-01	.2638-01	.2842-01	58.57	1.224	.4332	577.4
74	.00000	.95000	52.000	.1321-01	.1597-01	.1783-01	59.16	.7816	.4211	555.2
79	.00000	.97500	53.000	.8798-02	.1068-01	.1197-01	58.53	.5149	.4336	577.9
74	.00000	1.00000	54.000	.4345-02	.5256-02	.5871-02	58.99	.2561	.4227	557.2
74	.00000	1.02500	55.000	.2960-02	.3581-02	.4001-02	58.95	.1745	.4231	557.8
74	.00000	1.05000	56.000	.4207-02	.5096-02	.5698-02	58.56	.2463	.4268	562.7

DATE 24 JAN 76  
ORBITER TOP CL

ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S

DRB TOP CL

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(RE1A01)

RUN NUMBER	MACH	RN/L PEP FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOVOL SLUG/FT2SEC	ALPHA DEG.
3	5.300	.1491+07	165.6	1581.	390.9	.1750-01	.2979	.0000
5	5.300	.1411+07	141.9	1487.	366.2	.1750-01	.2656	.0000
9	5.300	.1476+07	122.8	1322.	323.2	.1750-01	.2472	.0000
10	5.300	.1454+07	118.8	1307.	319.3	.1750-01	.2407	.0000

\*\*\*TEST CONDITIONS\*\*\*

RN/L	- 1.500	BETA = .0000	ALPHA = .0000	ELEV/N = .0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/F12SEC	QDOT BTU/F12SEC	HW/HIT	HW DER. R	STN NO R=0.9
9	120.00	.10000-01	59.000	.3033	.3663	.4088	33.38	10.12	.4184
9	180.00	.25000-01	60.000	.1564	.2208	.2241	33.47	5.368	.4174
9	80.00	.50000-01	61.000	.1066	.1286	.1434	33.58	3.580	.4155
3	180.00	.75000-01	62.000	.7330-01	.8840-01	.9854-01	33.65	2.467	.4144
9	180.00	.10000+02	63.000	.6228-01	.7509-01	.8371-01	33.67	2.097	.4140
9	180.00	.12500	64.000	.4551-01	.5487-01	.6116-01	33.68	1.533	.4138
9	180.00	.15000	65.000	.1108	.1336	.1489	33.68	3.730	.4142
9	180.00	.16000	66.000	.4314	.5203	.5801	33.63	14.51	.4147
9	180.00	.17000	67.000	.50222	.6058	.6755	33.60	16.87	.4152
9	180.00	.18000	68.000	.4277	.5159	.5751	33.61	14.38	.4150
9	180.00	.20000	69.000	.8487-01	.1023	.1141	33.68	2.859	.4138
10	180.00	.25000	70.000	.1302-01	.1574-01	.1758-01	32.29	.4204	.4211
9	180.00	.30000	71.000	.5981-02	.7207-02	.8031-02	33.76	.2019	.4124
9	180.00	.40000	72.000	.7912-02	.9533-02	.1062-01	33.79	.2573	.4120
10	180.00	.50000	73.000	.7865-02	.9505-02	.1061-01	32.35	.2545	.4199
9	180.00	.60000	74.000	.1277-01	.1539-01	.1714-01	33.79	.4315	.4120
10	180.00	.70000	75.000	.2451-01	.2961-01	.3305-01	32.37	.7934	.4196
10	180.00	.80000	76.000	.4240-01	.5122-01	.5717-01	32.37	.1.372	.4197

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ARC 3.5-178 1H3

ORBITER TOP CL  
ORBITER TOP CL

ARC 3.5-178 1H3 0+1+5

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(REIA02)

RUN NUMBER	MACH	PN/L PER FT		PO PSIA	DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.	PARAMETRIC DATA ELEVON = .0000
		RN/L	5.000							
***TEST CONDITIONS***										
15	5.300	.4972+07	405.4	1305.	318.9	.1750-01	.8223	.0000		
16	5.300	.4953+07	406.3	1310.	320.2	.1750-01	.8223	.0000		
17	5.300	.5006+07	405.7	1303.	317.6	.1750-01	.8248	.0000		
18	5.300	.5058+07	404.9	1284.	313.4	.1750-01	.8294	.0000		
***TEST DATA***										
RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF, BTU/ FT2SEC	QDOT, BTU/ FT2SEC	HM/HT	TW DEG. R	STN NO R=0.9
118	180.00	-10000.01	59.00	.3176	.3874	.4353	.55.97	.17.78	.4450	581.3
118	180.00	-25000.01	60.00	.1761	.2145	.2408	.36.34	.9.922	.4415	576.8
118	180.00	-50000.01	61.00	.1085	.1320	.1480	.56.78	.6.162	.4373	571.3
118	180.00	-75000.01	62.00	.7893-01	.9589-01	.1774	.57.06	.4.504	.4346	567.8
118	180.00	-100000+00	63.00	.7418-01	.9009-01	.1.39	.57.14	.4.239	.4338	566.5
118	180.00	-125000	64.00	.8598-01	.1044	.1.64	.57.21	.4.919	.4332	565.9
118	180.00	-150000	65.00	.2483	.3022	.3336	.57.10	.14.21	.4342	567.2
118	180.00	-160000	66.00	.6095	.7408	.8303	.56.92	.34.69	.4359	569.4
118	180.00	-170000	67.00	.6730	.8184	.9176	.55.78	.38.21	.4373	571.2
118	180.00	-180000	68.00	.5634	.6845	.7669	.57.07	.32.16	.4345	567.6
118	180.00	-200000	69.000	.1156	.1402	.1570	.57.42	.6.637	.4311	563.1
116	180.00	-250000	70.000	.1553-01	.1880-01	.2102-01	.59.45	.9232	.4253	567.6
118	180.00	-300000	71.000	.3072-01	.3725-01	.4168-01	.57.68	.3867	.4286	559.9
118	180.00	-400000	72.000	.2325-01	.3417-01	.2817-01	.57.60	.1.770	.4294	560.9
116	180.00	-500000	73.000	.3422-01	.4150-01	.4645-01	.57.53	.1.686	.4230	564.5
118	180.00	-600000	74.000	.3780-01	.4570-01	.5103-01	.53.86	.1.969	.4301	561.8
116	180.00	-700000	75.000	.7207-01	.8719-01	.9740-01	.59.68	.2.263	.4214	562.4
116	180.00	-800000	76.000					.4.301	.4231	564.7

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ORBITER TOP CL

ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S (TRIPS)

ORB TOP CL

RN/L = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBHM	RS FT	RHOEL SLUG/FT2SEC	ALPHA DEG.
19	5.300	.1500+.07	122.6	1308.	319.5	.1750-.01	.2485	.0000
20	5.300	.1537+.07	121.3	127C.	312.1	.1750-.01	.2491	.0000
21	5.300	.1523+.07	122.0	1291.	315.3	.1750-.01	.2492	.0000
22	5.300	.1479+.07	122.1	1321.	322.9	.1750-.01	.2459	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HW/HT	HW/HT	TW DEG. R	STN NO R=0.9
19	180.00	1.0000-01	59.000	.3111	.3790	.4254	31.61	9.833	.4419	.588.5	.8404-02	
19	180.00	.250000-01	60.000	.1666	.2027	.2274	31.76	5.290	.4394	.585.1	.4496-02	
19	180.00	.500000-01	61.000	.1983	.1315	.1474	32.03	3.468	.4348	.578.9	.2918-02	
19	180.00	.750000-01	62.000	.7376-01	.8949-01	.1002	32.25	2.379	.4310	.573.9	.1986-02	
19	180.00	.100000-00	63.000	.6225-01	.7607-01	.8510-01	32.37	2.032	.4289	.571.1	.1688-02	
19	180.00	.125000-00	64.000	.3566-01	.4321-01	.4832-01	32.44	1.157	.4276	.569.4	.9589-03	
19	180.00	.150000-00	65.000	.1515	.1837	.2054	32.41	4.912	.4282	.570.2	.4076-02	
19	180.00	.160000-00	66.000	.5486	.6650	.7442	32.37	17.76	.4289	.571.1	.1476-01	
19	180.00	.170000-00	67.000	.5471	.6634	.7422	32.33	17.69	.4295	.572.0	.1472-01	
19	180.00	.180000-00	68.000	.4509	.5968	.6117	32.35	14.59	.4293	.571.7	.1213-01	
19	180.00	.200000-00	69.000	.9023-01	.1093	.1222	32.47	2.930	.4271	.568.8	.2426-02	
21	180.00	.250000-00	70.000	.1326-01	.1607-01	.1797-01	31.92	.4234	.4276	.561.8	.3546-03	
19	180.00	.300000-00	71.000	.6583-02	.7963-02	.8895-02	32.72	.2154	.4229	.563.1	.1768-03	
19	180.00	.400000-00	72.000	.9489-02	.1147-01	.1281-01	32.81	.3113	.4215	.561.2	.2547-03	
21	180.00	.500000-00	73.000	.1668-01	.2021-01	.2260-01	31.96	.5333	.4269	.560.9	.4460-03	
19	180.00	.600000-00	74.000	.2388-01	.2897-01	.3224-01	32.78	.7827	.4218	.561.7	.6409-03	
21	180.00	.700000-00	75.000	.2911-01	.3526-01	.3942-01	31.99	.9312	.4264	.560.3	.7780-03	
21	180.00	.800000-00	76.000	.4013-01	.4861-01	.5434-01	32.00	1.284	.4262	.560.0	.1073-02	

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DATE 24 JAN 76  
ORBITER TOP CL

ARC 3.5-178 IH3  
ARC 3.5-178 IH3 O+T+S (TRIPS)

PAGE 107  
(REF ID: 04)

				RN/L	5.000	BETA	- .0000	ALPHA = .0000	ELEVON = .0000
				RS	FT	RHOEL	SLUG/	ALPHA	DEG.
*** TEST CONDITIONS ***									
RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.	
29	5.300	.4977-07	406.3	1307.	319.2	.1750-01	.8238	.0000	
30	5.300	.5005-07	406.2	1302.	317.9	.1750-01	.8254	.0000	
31	5.300	.5036-07	406.4	1302.	316.0	.1750-01	.8257	.0000	
32	5.300	.5039-07	406.7	1297.	316.8	.1750-01	.8281	.0000	
*** TEST DATA ***									
RUN NUMBER	PHI X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HF	TW DEG. R
32	180.00	10000-01	59.000	3284	3796	54.44	16.79	.6668	616.3
32	180.00	25000-01	60.300	1689	.2074	.2341	55.04	.9297	.4592-02
32	180.00	50000-01	61.000	1047	.1281	.1443	55.83	.4611	.2510-02
32	180.00	75000-01	62.000	.7105-01	.8674-01	.9751-01	56.49	.4536	.1551-02
32	180.00	100000+00	53.000	.5945-01	.7252-01	.8147-01	56.73	.4473	.1050-02
32	180.00	125000+	64.000	.2598-01	.3168-01	.3548-01	31.373	.4450	.8783-03
32	180.00	150000+	65.000	.2583	.3152	.3542	56.84	.4477	.3837-03
32	180.00	160000	66.000	.6072	.7418	.8343	56.60	.4463	.586.2
32	180.00	170000	67.000	.6453	.7890	.8878	56.32	.4489	.3817-02
32	180.00	180000	68.000	.5336	.6516	.7326	56.10	.4510	.6983-02
32	180.00	200000	69.000	.1326	.1616	.1814	56.45	.4477	.9552-02
30	180.00	250000	70.000	.1721-01	.2148-01	.2405-01	57.03	.4422	.7891-02
32	180.00	300000	71.000	.1204-01	.1464-01	.1641-01	58.34	.4314	.1958-02
32	180.00	400000	72.000	.3979-01	.4786-01	.5361-01	57.69	.4359	.2611-03
30	180.00	500000	73.000	.2658-01	.3222-01	.3604-01	58.62	.4279	.1774-03
32	180.00	500000	74.000	.3246-01	.3944-01	.4419-01	57.76	.4288	.5799-03
30	180.00	700000	75.000	.3718-01	.4504-01	.5037-01	58.80	.4288	.3917-03
30	180.00	800000	76.000	.6918-01	.8381-01	.9373-01	58.77	.4274	.4755-03

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ARC 3.5-178 IH3  
ORBITER TOP CL

ARC 3.5-178 IH3

(RE)ADS

PAGE 108

ARC 3.5-178 IH3

093 TOP CL

RN/L = 5.000    BETA = -5.000    ALPHA = .0000    ELEVON = .0000

PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	I0 BTU/ LBM	RS FT	RHOVEL SLUS/ FT2SEC	ALPHA DEG.
36	5.300	.5031+07	406.1	1297.	316.8	.1750-01	.8269	.0000
37	5.300	.5149+07	401.9	1270.	309.8	.1750-01	.8285	.0000
38	5.300	.5055+07	406.0	1255.	315.8	.1750-01	.8282	.0000
39	5.300	.5045+07	406.2	1295.	316.3	.1750-01	.8279	.0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HIT	HW DEG. R	HW/HIT	HW DEG. R	STN NO R=0.9
39	180.00	-10000-01	59.000	.2994	.3673	.4142	55.19	16.53	.4584	604.3	.4443-02		
39	180.00	-25000-01	60.000	.1647	.2016	.2270	55.76	9.185	.4531	597.2	.2439-02		
39	180.00	-50000-01	61.00-	.1072	.1368	.1471	56.44	6.050	.4466	588.6	.1584-02		
39	180.00	-75000-01	62.00-	.7363-01	.8969-01	.1007	56.95	4.194	.4417	582.2	.1086-02		
39	180.00	-100000-00	63.000	.6891-01	.8389-01	.9411-01	57.15	3.938	.4398	579.7	.1016-02		
39	180.00	-125000-00	64.000	.5859-01	.7129-01	.7996-01	57.25	3.354	.4388	578.4	.8634-03		
39	180.00	-150000	65.000	.1796	.2187	.2455	57.06	10.25	.4407	580.9	.2649-02		
39	180.00	-160000	66.000	.6048	.7370	.8274	56.86	34.3	.4426	583.3	.8923-02		
39	180.00	-170000	67.00	.6375	.7773	.8731	56.68	36.13	.4442	585.6	.9411-02		
39	180.00	-180000	68.000	.5297	.6454	.7245	56.91	30.14	.4421	582.7	.7814-02		
39	180.00	-200000	69.000	.1122	.1364	.1529	57.50	6.453	.4365	575.4	.1653-02		
37	180.00	-250000	70.000	.1223-01	.1485-01	.1663-01	56.27	.6883	.4335	559.8	.1786-03		
39	180.00	-300000	71.000	.2469-01	.2996-01	.3354-01	58.05	1.433	.4312	56R.4	.3630-03		
39	180.00	-400000	72.000	.4625-01	.5610-01	.6273-01	58.15	2.689	.4303	567.2	.h97-03		
37	180.00	-500000	73.000	.3084-01	.3737-01	.4178-01	56.93	1.756	.4271	551.5	.4496-03		
39	180.00	-600000	74.000	.2913-01	.3534-01	.3955-01	58.08	1.692	.4310	568.1	.4282-03		
37	180.00	-700000	75.000	.2898-01	.3509-01	.3922-01	57.06	1.653	.4259	549.9	.4222-03		
37	180.00	-800000	76.000	.6237-01	.7554-01	.8445-01	57.02	3.556	.4262	550.4	.9089-03		

DATE 24 JAN 76  
ARC 3.5-17B 1H3  
ORBITER TOP CL

ARC 3.5-17B 1H3

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(REF 1A06)

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109

109

109

PARAMETRIC DATA

ORB TOP CL

109

109

RN/L = 1.500

109

BETA = .0000

109

ALPHA = .0000

109

ELEVON = .0000

109

\*\*\*TEST CONDITIONS\*\*\*

109

109

ALPHA

109

DEG.

109

DEG.

109

BTU/

109

LBH

109

FT

109

BTU/

109

FT

109

SLUG/

109

FT SEC

109

ALPHA

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DEG.

109

BTU/

109

FT

109

\*\*\*TEST DATA\*\*\*

109

109

ALPHA

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DEG.

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BTU/

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FT

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SLUG/

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FT SEC

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ALPHA

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DEG.

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BTU/

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ALPHA

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DEG.

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BTU/

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\*\*\*TEST DATA\*\*\*

109

109

ALPHA

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DEG.

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BTU/

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FT

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SLUG/

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FT SEC

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ALPHA

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DEG.

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BTU/

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FT

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ALPHA

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DEG.

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BTU/

109

FT

109

DATE 24 JAN 76

ARC 3.5-178 IH3

PAGE 110  
(REIAD7)

ORBITER TOP CL

ARC 3.5-178 IH3 ORBITER

ORB TOP CL

	RNL	MACH	RNL/ PER FT	PO PSIA	T DEG. R	HO BTU/ LBM	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.	ELEVON ■ .0000
44	5.300	.5112-.37	406.4	1e25	313.6	.1750-01	.8322	.0000		
45	5.300	.5036+.07	406.2	1297.	316.7	.1750-01	.8273	.0000		
46	5.300	.5003+.07	405.9	1301.	317.9	.1750-01	.8248	.0000		
47	5.300	.5392+.07	404.9	1240.	302.0	.1750-01	.8469	.0000		

	RNL ■ .5.000	BETA ■ .0000	ALPHA ■ .0000	ELEVON ■ .0000
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\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	MMHT	MMHT	STN NO R=0.9	
47	180.00	.10000-01	59.000	-3029	.3809	.4312	.51.26	.4709	.592.8	.4484-02	
47	180.00	.25000-01	60.000	.1684	.2072	.2343	.51.64	.4671	.588.0	.2440-02	
47	180.00	.50000-01	61.000	.1052	.1293	.1459	.52.05	.4629	.582.7	.1522-02	
47	180.00	.75000-01	62.000	.7279-01	.8884-01	.1002	.52.34	.4678	.579.1	.1C46-02	
47	180.00	.10000+00	63.000	.6279-01	.7704-01	.8669-01	.52.43	.3.293	.4591	.9075-03	
47	180.00	.12500	64.000	.4815-01	.5905-01	.6655-01	.52.50	.2.526	.4585	.6356-03	
47	180.00	.15000	65.000	.1762	.2163	.2440	.52.36	.9.228	.4599	.2548-02	
47	180.00	.16000	56.000	.5823	.7150	.8070	.52.23	.30.41	.4612	.8422-02	
47	180.00	.17000	6.000	.6203	.7621	.8504	.52.10	.32.32	.4624	.8975-02	
47	180.00	.18000	68.000	.5113	.6277	.7082	.52.30	.26.74	.4604	.7393-02	
47	180.00	.20000	69.000	.1189	.1456	.1241	.52.77	.6.271	.4558	.1715-02	
45	180.00	.25000	70.000	.1424-01	.1729-01	.1237-01	.57.80	.8229	.6.743	.573.1	.2096-03
47	180.00	.30000	71.000	.2831-02	.3463-02	.3399-02	.53.17	.1.503	.1.524	.569.5	.4081-04
47	180.00	.40000	72.000	.2591-01	.3170-01	.3568-01	.53.10	.1.378	.4518	.568.7	.3735-03
45	180.00	.50000	73.000	.3881-01	.4710-01	.5274-01	.58.03	.6.252	.4321	.570.3	.5711-03
47	180.00	.60000	74.000	.3783-01	.4627-01	.5209-01	.53.14	.2.010	.4520	.559.0	.5453-03
45	180.00	.70000	75.000	.3388-01	.4716-01	.5279-01	.56.17	.2.-61	.4308	.568.5	.5718-03
45	180.00	.90000	76.000	.5663-01	.6870-01	.7690-01	.58.14	.3.293	.4310	.568.8	.8330-03

	PARAMETRIC DATA
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DATE 04 DEC 73

ARC 3.5-178 1H3

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(HE1A08)

ORBITER TOP CL

ARC 3.5-178 IH3 ORBITER (TRIPS) ORB TOP CL

	RNL =	1.500	BETA =	.0000	ALPHA =	.0000	ELEVON =	.0000
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RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/LBHM	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
48	5.300	.1533+07	123.1	1293.	315.7	.1750-01	.2511	.0000
49	5.300	.1526+07	122.7	1294.	315.9	.1750-01	.2502	.0000
50	5.300	.1431+07	118.7	1320.	322.6	.1750-01	.2392	.0000
51	5.300	.1495+07	121.6	1304.	318.4	.1750-01	.2469	.0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HTW DEG. R			
48	180.00	.10000-01	.59.000	.3188	.3902	.4395	.30.58	.9.748	.4539	.597.1	.8569-02
48	180.00	.25000-01	.60.000	.1739	.2127	.2393	.30.75	.5.349	.4509	.593.3	.4671-02
48	180.00	.50000-01	.61.000	.1112	.1356	.1524	.31.06	.3.453	.4455	.586.1	.2980-02
48	180.00	.75000-01	.62.000	.7922-01	.9647-01	.1063	.31.33	.2.482	.4408	.579.8	.2120-02
48	180.00	.10000+00	.63.000	.5761-01	.8213-01	.9210-01	.31.48	.2.125	.4382	.576.5	.1805-02
48	180.00	.12500	.64.000	.4348-01	.5286-01	.5026-01	.31.56	.1.372	.4369	.574.9	.1.62-02
48	180.00	.15000	.65.000	.1529	.1860	.2086	.31.50	.4.816	.4.790	.576.3	.4088-02
48	180.00	.16000	.66.000	.5267	.6409	.7189	.31.45	.16.56	.43	.577.3	.1409-01
48	180.00	.17000	.67.000	.5262	.6405	.7165	.31.40	.16.52	.43	.5 8.5	.1408-01
48	180.00	.18000	.68.000	.4276	.5204	.5837	.31.43	.13.44	.436	.577.7	.1144-01
48	180.00	.20000	.69.000	.8639-01	.1050	.1177	.31.61	.2.731	.4360	.573.6	.2308-02
50	180.00	.25000	.70.000	.1307-01	.1571-01	.1747-01	.33.55	.4.384	.4051	.544.6	.3569-03
48	180.00	.30000	.71.000	.4001-02	.4854-02	.5432-02	.31.92	.1.277	.4307	.566.6	.1067-03
48	180.00	.40000	.72.000	.6993-02	.8476-02	.9482-02	.32.04	.2.241	.4285	.563.7	.1864-03
50	180.00	.50000	.73.000	.1452-01	.1746-01	.1942-01	.33.57	.4.875	.4049	.544.3	.3966-03
48	180.00	.60000	.74.000	.2899-01	.3514-01	.3932-01	.32.03	.9288	.4287	.564.0	.7728-03
50	180.00	.70000	.75.000	.3265-01	.3924-01	.4365-01	.33.58	.1.097	.4046	.543.9	.8916-03
50	180.00	.80000	.76.000	.3992-01	.4797-01	.5335-01	.33.60	.1.341	.4043	.543.5	.1090-02

\*\*\*TEST DATA\*\*\*

DATE 24 JAN 76

ARC 3.5-178 IH3

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(REF) A09)

ORBITER TOP CL

ARC 3.5-178 IH3 ORBITER (TRIPS) ORB TOP CL

	RN/L	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.	ELEVON = .0000
52	5.300	.5053+07	405.5	1292.	315.6	.1750-01	.8274	.0000		
53	5.300	.5027+07	405.4	1299.	317.2	.1750-01	.8269	.0000		
54	5.300	.5137+07	405.1	1278.	312.0	.1750-01	.8320	.0000		
55	5.300	.4987+07	402.9	1298.	317.0	.1750-01	.8201	.0000		

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QDOT BTU/ FT2SEC	HW/HIT
55	186.00	.10000-01	59.000	.3118	.3853	.4368	.4756
55	180.00	.25000-01	60.000	.1696	.2090	.2365	.4597
55	180.00	.50000-01	61.000	.1126	.1382	.1560	.4614
55	160.00	.75000-01	62.000	.8315-01	.0118	.1146	.4621
55	190.00	.10000-00	63.000	.7195-01	.6795-01	.9895-01	.4027
55	180.00	.12500-00	64.000	.6114-01	.6114-01	.7572-01	.5619
55	180.00	.15000-00	65.000	.2533	.3098	.3486	.3098
55	180.00	.16000-00	66.000	.5807	.7104	.7998	.1417
55	180.00	.17000-00	67.000	.6240	.7640	.8605	.3235
55	180.00	.18000-00	68.000	.5159	.6308	.7098	.4542
55	180.00	.20000-00	69.000	.1204	.1468	.1648	.4510
55	180.00	.25000-00	70.000	.1604-01	.1949-01	.2183-01	.5614
55	180.00	.30000-00	71.000	.5771-02	.7012-02	.7856-02	.57.59
55	180.00	.40000-00	72.000	.3526-01	.4278-01	.4788-01	.57.96
55	180.00	.50000-00	73.000	.3800-01	.4610-01	.5160-01	.58.28
55	180.00	.60000-00	74.000	.3927-01	.4766-01	.5335-01	.57.93
55	180.00	.70000-00	75.000	.3967-01	.4809-01	.5381-01	.58.45
55	180.00	.80000-00	76.000	.5909-01	.7164-01	.8016-01	.58.41

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QDOT BTU/ FT2SEC	HW/HIT	TW DEG. R	STN NO R=0.9
55	186.00	.10000-01	59.000	.3118	.3853	.4368	.4756	.628.4	.4682-02	
55	180.00	.25000-01	60.000	.1696	.2090	.2365	.4597	.620.5	.2541-02	
55	180.00	.50000-01	61.000	.1126	.1382	.1560	.4614	.609.1	.1681-02	
55	160.00	.75000-01	62.000	.8315-01	.0118	.1146	.4621	.599.6	.1238-02	
55	190.00	.10000-00	63.000	.7195-01	.6795-01	.9895-01	.4027	.594.7	.1070-02	
55	180.00	.12500-00	64.000	.6114-01	.6114-01	.7572-01	.5619	.591.9	.8197-03	
55	180.00	.15000-00	65.000	.2533	.3098	.3486	.3098	.595.4	.3770-02	
55	180.00	.16000-00	66.000	.5807	.7104	.7998	.55.91	.597.9	.8654-02	
55	180.00	.17000-00	67.000	.6240	.7640	.8605	.55.54	.600.1	.9295-02	
55	180.00	.18000-00	68.000	.5159	.6308	.7098	.55.88	.595.8	.7676-02	
55	180.00	.20000-00	69.000	.1204	.1468	.1648	.56.64	.586.2	.1767-02	
55	180.00	.25000-00	70.000	.1604-01	.1949-01	.2183-01	.57.90	.574.2	.2354-03	
55	180.00	.30000-00	71.000	.5771-02	.7012-02	.7856-02	.57.59	.574.3	.8540-04	
55	180.00	.40000-00	72.000	.3526-01	.4278-01	.4788-01	.57.96	.569.7	.5211-03	
55	180.00	.50000-00	73.000	.3800-01	.4610-01	.5160-01	.58.28	.569.3	.5554-03	
55	180.00	.60000-00	74.000	.3927-01	.4766-01	.5335-01	.57.93	.570.0	.5806-03	
55	180.00	.70000-00	75.000	.3967-01	.4809-01	.5381-01	.58.45	.567.2	.5836-03	
55	180.00	.80000-00	76.000	.5909-01	.7164-01	.8016-01	.58.41	.567.7	.8694-03	



DATE 24 JAN 76  
ORBITER TOP CL

ARC 3.5-178 1H3

ORB TOP CL

RN/L = 5.000    BETA = .0000    ALPHA = -3.000    ELEVON = .0000

PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BT-U/ LBM	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.
74	5.300	.5051+07	406.7	1295.	316.3	.1750-01	.8289	-3.000
76	5.300	.5017+07	406.9	1301.	317.8	.1750-01	.8270	-3.000
79	5.300	.4970+07	406.9	1309.	319.8	.1750-01	.8241	.0000

\*\*\*TEST CONDITIONS\*\*\*

\*\*\*TEST DATA\*\*\*

RUN NUMBER	PHI X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HM/HT	TW DEG. R	STN NO R=0.9
74	180.00	.10000-01	59.000	.3389	.4144	.4663	19.00	.4507	594.2
	180.00	.25000-01	60.000	.1900	.2318	.2504	10.77	.4447	586.3
	180.00	.50000-01	61.000	.1261	.1533	.1719	57.48	.4370	576.1
	180.00	.75000-01	62.000	.8975-01	.1089	.1219	58.03	.4319	569.4
	180.00	.10000+00	63.000	.7727-01	.9370-01	.1059	58.24	.4299	566.7
	180.00	.12500	64.000	.6543-01	.7931-01	.8875-01	58.37	.4286	565.1
	180.00	.15000	65.000	.2374	.2880	.3223	58.19	.4303	567.3
	180.00	.16000	66.000	.6980	.8473	.9488	13.82	.4324	570.1
	180.00	.17000	67.000	.7162	.8700	.9716	57.79	.4342	572.4
	180.00	.18000	68.000	.5858	.7108	.7957	58.07	.4315	568.8
	180.00	.20000	69.000	.1223	.1481	.1655	58.66	.4258	561.4
	180.00	.25000	70.000	.1589-01	.1930-01	.2163-01	58.38	.4350	579.8
	180.00	.30000	71.000	.6167-02	.7457-02	.8327-02	59.11	.4216	555.8
	180.00	.40000	72.000	.2406-01	.2908-01	.3244-01	59.15	.423	555.2
	180.00	.50000	73.000	.4130-01	.5014-01	.5616-01	58.59	.420	577.1
	180.00	.60000	74.000	.4839-01	.5849-01	.6533-01	59.15	.4213	555.3
	180.00	.70000	75.000	.5385-01	.6538-01	.7322-01	58.60	.4229	577.0
	180.00	.80000	76.000	.5770-01	.6187	.7129	58.48	.431	578.5

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(RE1A20)

DATE 24 JAN 76

ARC 3.5-178 IH3

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(REF101)

ARC 3.5-178 IH3 0+T+S

## WINDOWS

## WINDOWS

	RN/L	-	1.500	BETA	-	.0000	ALPHA	=	.500	ELEVON	=	.0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.
3	5.300	.1491+.07	165.6	1581.	390.9	.1750-.01	.2979	.0000
5	5.300	.1411+.07	141.9	1487.	366.2	.1750-.01	.2656	.0000
9	5.300	.1476+.07	122.8	1322.	323.2	.1750-.01	.2472	.0000
10	5.300	.1454+.07	118.8	1307.	319.3	.1750-.01	.2407	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	WINDOW	T/C NO	Z	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HT	HW/HT	TW DEG. R	STN NO R=0.9
10	1.0000	77.000	478.00	.3681	.4455	.4977	32.12	11.82	.4240	.564.2	.1004-01	
10	1.0000	78.000	476.00	.4654	.5632	.6293	32.12	14.95	.4240	.564.3	.1270-01	
9	1.0000	79.000	461.97	.4776	.5701	.6358	33.57	15.86	.4158	.560.0	.1274-01	
10	1.0000	80.000	452.00	.3158	.3821	.4269	32.15	10.15	.4235	.563.6	.8616-02	
10	1.0000	81.000	452.00	.3008	.3639	.4065	32.16	9.671	.4233	.563.4	.8204-02	
10	2.0000	82.000	478.00	.2271	.2746	.3068	32.19	7.311	.4227	.562.5	.6193-02	
10	2.0000	83.000	478.00	.2816	.3407	.3906	32.15	9.054	.4234	.563.4	.7682-02	
9	2.0000	84.000	464.97	.3164	.3815	.4254	33.63	10.64	.4147	.558.6	.8527-02	
10	2.0000	85.000	452.00	.2017	.2440	.2726	32.18	6.192	.4230	.562.9	.5503-02	
10	2.0000	86.000	452.00	.2933	.3548	.3964	32.15	9.427	.4235	.563.6	.8000-02	
9	3.0000	87.000	464.97	.1446	.1743	.1943	33.73	4.878	.4131	.556.4	.3897-02	

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 0+T+S

## WINDOWS

## WINDOWS

RN/L = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## PARAMETRIC DATA

## PARAMETRIC DATA

*** TEST CONDITIONS ***						
RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT
15	5.300	.4972-07	405.4	1305.	310.9	.1750-01
16	5.300	.4953-07	406.3	1310.	320.2	.1750-01
17	5.300	.5006-07	405.7	1300.	317.6	.1750-01
18	5.300	.5098-07	404.9	1284.	313.4	.1750-01

## \*\*\* TEST DATA \*\*\*

RUN NUMBER	WINDOW	T/C NO	Z	H/HREF R=1.0	H/HREF R=0.9	HREF R=0.85	GREF BTU/FT2SEC	QDOT BTU/FT2SEC	HW/HT	HW/HT	TW DEG. R	STN NO R-0.9
16	1.0000	77.000	478.00	.5120	.6217	.6963	.58.58	.29.99	.4335	.578.5	.7588-02	
15	1.0000	78.000	478.00	.6884	.8363	.9371	.58.43	.40.22	.4348	.580.3	.1024-01	
18	1.0000	79.000	464.97	.6982	.8492	.9522	.56.73	.39.61	.4377	.571.8	.1024-01	
16	1.0000	80.000	452.00	.4949	.6010	.6731	.58.59	.29.00	.4334	.578.3	.7335-02	
16	1.0000	81.000	452.00	.5039	.6118	.6852	.58.50	.29.52	.4333	.578.2	.7467-02	
16	2.0000	82.000	478.00	.3261	.3955	.4426	.58.95	.19.23	.4299	.573.8	.4822-02	
16	2.0000	83.000	478.00	.3863	.4689	.5250	.58.73	.22.69	.4320	.576.6	.5723-02	
18	2.0000	84.000	464.97	.4115	.5002	.56.66	.56.52	.23.42	.4359	.559.4	.6035-02	
16	2.0000	85.000	452.00	.2899	.3515	.3933	.59.00	.17.10	.4295	.573.2	.4290-02	
16	2.0000	86.000	452.00	.4411	.5354	.5994	.58.71	.25.90	.4322	.576.8	.6535-02	
18	3.0000	87.000	464.97	.2088	.2534	.2837	.57.34	.11.97	.4319	.564.2	.3058-02	

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POORPAGE 116  
(RE1C02)

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ARC 3.5-178 IH3

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## ARC 3.5-178 IH3 O+T+S (TRIPS)

(RE1C03)

## WINDOWS

## PARAMETRIC DATA

RNL = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

RNL = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/LB.M	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
19	5.300	.1500+07	122.6	1308.	319.5	.1750-01	.2485	.0000
20	5.300	.1537+07	121.3	1279.	312.1	.1750-01	.2491	.0000
21	5.300	.1523+07	122.0	1291.	315.3	.1750-01	.2492	.0000
22	5.300	.1470+37	122.1	1321.	322.9	.1750-01	.2459	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	WINDOW T/C NO	Z	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QDOT BTU/FT2SEC	HW/HIT	TH DEG. R	STN NO R=0.9
21	1.0000	77.000	478.00	4113	.4990	.5585	31.75	13.06	.4306
21	1.0000	78.000	478.00	.5474	.6611	.7432	31.75	17.38	.4306
19	1.0000	79.000	464.97	.5643	.6817	.7664	32.25	9.20	.4310
21	1.0000	80.000	452.00	.3731	.4525	.5063	31.80	11.96	.4297
21	1.0000	81.000	452.00	.3863	.4685	.5242	31.21	12.29	.4295
21	2.0000	82.000	478.00	.2469	.2993	.3349	31.83	7.858	.4293
21	2.0000	83.000	478.00	.3048	.3696	.4136	31.80	9.692	.4293
19	2.0000	84.000	464.97	.3012	.3653	.4088	32.32	9.738	.4297
21	2.0000	85.000	452.00	.2026	.2456	.2747	31.83	6.448	.4291
21	2.0000	86.000	452.00	.3268	.3962	.4434	31.81	10.39	.4295
19	3.0000	87.000	464.97	.1464	.1773	.1983	32.53	4.763	.4262

DATE 24 JAN 76

ARC 3.5-178 IH3

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(RE1C04)

ARC 3.5-178 IH3 O+T+S (TRFS)

## WINDOWS

WINDOS

WINDOWS		RN/L	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.	ELEVON	.0000
***TEST CONDITIONS***												
29	5.300	.4977+07	406.3	1307.	319.2	.1750-01	.8238	.0000				
30	5.300	.5006+07	406.2	1302.	317.9	.1750-01	.8254	.0000				
31	5.300	.5006+07	406.4	1302.	318.0	.1750-01	.8257	.0000				
32	5.300	.5039+07	406.7	1297.	316.8	.1750-01	.8281	.0000				

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	WINDOW	T/C NO	Z	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QDOT BTU/ FT2SEC	HW/HIT	TW DEG. R	STN NO R=0.9	
30	1.0000	77.000	478.00	.5106	.6219	.6980	.57.31	.4413	584.7	.7555-02	
31	1.0000	78.000	478.00	.6889	.8396	.9428	.57.14	.4429	586.8	.1020-01	
32	1.0000	79.000	464.97	.6427	.7859	.8845	.56.09	.39.36	595.7	.5515-02	
30	1.0000	80.000	452.00	.4368	.5315	.5962	.57.53	.36.05	582.0	.6458-02	
30	1.0000	81.000	452.00	.5721	.6964	.7812	.57.49	.25.12	582.4	.6460-02	
30	2.0000	82.000	478.00	.3100	.3768	.4223	.57.90	.32.63	577.3	.4579-02	
30	2.0000	83.000	478.00	.3869	.4705	.5277	.57.62	.17.95	577.3	.5717-02	
30	2.0000	84.000	464.97	.3688	.4504	.5064	.56.43	.22.29	580.8	.5454-02	
32	2.0000	85.000	452.00	.2664	.3237	.3627	.57.94	.20.81	591.3	.3933-02	
30	2.0000	86.000	452.00	.3694	.4739	.5315	.57.56	.15.43	576.8	.5757-02	
32	3.0000	87.000	464.97	.1508	.2324	.2608	.57.18	.22.42	581.5		
								.10.91	.4389		
									.4408		

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ARC 3.5-178 1H3

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ARC 3.5-178 1H3 O+T+S

(REF 1C05)

## WINDOWS

## WINDOWS

(REF 1C05)

Rn/L = 5.000 BETA = -5.000 ALPHA = .0000 ELEVON = .0000

## PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
36	5.300	.5031+07	405.1	1297.	316.8	.1750-01	.8269	
37	5.300	.5149+07	401.9	1270.	309.8	.1750-01	.8285	.0000
38	5.300	.5055+07	406.0	1253.	315.8	.1750-01	.8282	.0000
39	5.300	.5045+07	406.2	1295.	316.3	.1750-01	.8279	.0000

## \*\*\*TEST CONDITIONS\*\*\*

Rn/L = 5.000 BETA = -5.000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	WINDOW T/C NO	Z	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF FT <sup>2</sup> SEC	Q0001 BTU/FT <sup>2</sup> SEC	HW/HF	TW/TW DEG. R	STN 1, R=0.9
37	1.0000	77.000	478.00	.5771	.7049	.7927	54.75	31.60	.4484	.5720
37	1.0000	78.000	478.00	.7338	.8969	1.009	54.59	40.06	.4503	.5811
39	1.0000	79.000	461.97	.7457	.9097	1.022	56.57	42.19	.4453	.5870
37	1.0000	80.000	452.00	.5795	.7013	.7883	54.88	31.53	.4471	.5774
37	1.0000	81.000	452.00	.5888	.7187	.8078	54.93	32.34	.4467	.5768
37	2.0000	82.000	478.00	.3950	.4812	.5402	55.38	21.87	.4422	.5710
37	2.0000	83.000	478.00	.4744	.5789	.6504	55.03	26.11	.4457	.5755
39	2.0000	84.000	464.97	.4741	.5777	.6485	56.88	26.96	.4424	.5831
37	2.0000	85.000	452.00	.3548	.4323	.4853	55.38	19.65	.4423	.5711
37	2.0000	86.000	452.00	.5079	.6200	.6970	54.89	27.88	.4470	.5772
39	3.0000	87.000	464.97	.2544	.3091	.3454	57.59	14.65	.4356	.5742

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SACRE 3.5-178 1HS

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PAGE : 20  
(REFIC06)

PARAMETRIC DATA

TEST CONDITIONS

	MACH	R/N/L PER FT	PO PSIA	T0 DEG. R	HO BTU/ LB.M	RHOMEL SLUG/ FT2SEC	ALPHA DEG.
40	5.300	.1636+.07	130.4	1287.	314.1	.1750-.01	.0000
41	5.300	.1582+.07	126.5	1290.	315.0	.1750-.01	.0000
42	5.300	.1522+.07	122.7	1296.	316.5	.1750-.01	.2500
43	5.300	.1516+.07	123.1	1302.	318.9	.1750-.01	.0000

•••YES! DATA•••

RUN NUMBER	WINDOW	T/C NO	Z	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	ODOT BTU/ FT <sup>2</sup> SEC	TH DEG. R	STN NO R=0.9
42	1.0000	478.00	478.00	.3441	.4167	.4659	32.22	11.09	.9192-02
42	1.0000	78.000	78.000	.4354	.5273	.5896	32.22	14.03	.1163-01
40	1.0000	464.97	4755	.5795	.6506	.7198	15.21	.4426	.1233-01
42	1.0000	80.000	3190	.3863	.4318	.4816	32.25	10.29	.8521-02
42	1.0000	452.00	3100	.3754	.4196	.4766	32.25	9.299	.8281-02
42	1.0000	81.000	2044	.2474	.2766	.3223	6.60	.4251	.5459-02
42	2.0000	82.000	478.00	.2605	.3154	.3525	32.25	8.403	.6957-02
42	2.0000	83.000	478.00	.3037	.3698	.4150	32.03	9.743	.7870-02
40	2.0000	84.000	464.97	.2012	.2435	.2721	32.32	6.501	.5371-02
42	2.0000	85.000	452.00	.2925	.3541	.3958	32.28	8.442	.7812-02
42	2.0000	86.000	464.97	.1378	.1675	.1877	32.37	4.460	.3568-02
40	3.0000	87.000	478.00						570.8

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ARC 3.5-178 IH3  
ARC 3.5-178 IH3 ORBITER

## WINDOWS

## WINDOWS

RN/L = 5.000    BETA = .0000    ALPHA = .0000    ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG.	HO BTU/LBM	RS FT	RHOEL SLUG/FT2SEC	ALPHA DEG.
44	5.300	.5112+07	406.4	1285.	313.6	.1750-01	.8322	.0000
45	5.300	.5036+07	406.2	1297.	316.7	.1750-01	.8273	.0000
46	5.300	.5003+07	405.9	1301.	317.9	.1750-01	.8248	.0000
47	5.300	.5392+07	404.9	1240.	302.0	.1750-01	.8469	.0000

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(REFC07)

PARAMETRIC DATA

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	WINDOW T/C NO	Z	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	H/H HT	TW DEG. R	STN NO R=0.9
45	1.0000	77.000	.4746	.5790	.6506	.56.63	.4454	.587.8	.7015-02
45	1.0000	78.000	.6416	.7830	.8800	.56.54	.4463	.589.0	.9465-02
47	1.0000	79.000	.464.97	.6622	.8136	.9187	.52.07	.582.5	.9582-02
45	1.0000	80.000	.452.00	.4685	.5713	.64.17	.36.27	.4627	.6982-02
45	1.0000	81.000	.452.00	.5390	.6572	.7382	.56.77	.586.4	.7963-02
45	2.0000	82.000	.478.00	.2929	.3568	.4004	.57.09	.4443	.596.1
45	2.0000	83.000	.478.00	.354.3	.4320	.4851	.56.82	.4441	.4323-02
47	2.0000	84.000	.464.97	.3810	.4676	.5276	.52.32	.4436	.5234-02
45	2.0000	85.000	.452.00	.2734	.3330	.3737	.57.10	.4603	.5503-02
45	2.0000	86.000	.452.00	.4142	.5050	.5672	.56.77	.4410	.4035-02
47	3.0000	87.000	.464.97	.1922	.2354	.2652	.52.87	.4441	.6119-02
							.10.16	.4547	.572.4

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ARC 3.5-178 IH3

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## ARC 3.5-178 IH3

(RE108)

## WINDOWS

ARC 3.5-178 IH3 ORBITER (TRIPS) WINDOWS

## PARAMETRIC DATA

RUN/L = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
48	5.300	.1533+07	123.1	1293.	315.7	.1750-01	.2511	.0000
49	5.300	.1526+07	122.7	1294.	315.9	.1750-01	.2502	.0000
50	5.300	.1431+07	118.7	1320.	322.6	.1750-01	.2392	.0000
51	5.300	.1495+07	121.6	1304.	318.4	.1750-01	.2469	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	WINDOW T/C NO	Z	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QDOT BTU/ FT2SEC	HW/HT	TW DEG. R	STN NO R=0.9
50	1.0000	77.000	478.00	.3962	.4767	.5306	33.39	.4079	548.3
50	1.0000	78.000	478.00	.5267	.6337	.7054	33.38	.4080	548.5
48	1.0000	79.000	464.97	.5658	.6892	.7735	31.30	.4079	.1083-01
50	1.0000	80.000	452.00	.3958	.4761	.5298	33.43	.4080	.1440-01
50	1.0000	81.000	452.00	.3651	.4392	.4888	33.42	.4079	.1514-01
50	2.0000	82.000	478.00	.2285	.2748	.3057	33.47	.4072	.081-01
50	2.0000	83.000	478.00	.2921	.3514	.3911	33.43	.4073	.9977-02
48	2.0000	84.000	464.97	.3004	.3556	.4101	31.41	.4072	.6242-02
50	2.0000	85.000	452.00	.2067	.2485	.2765	33.50	.4066	.7982-02
50	2.0000	86.000	452.00	.3345	.4024	.4478	33.45	.4068	.8035-02
48	3.0000	87.000	464.97	.1358	.1650	.1849	31.71	.4307	.5647-02

## \*\*\*TEST DATA\*\*\*

DATE 24 JAN 76

ARC 3.5-178 IH3

## ARC 3.5-178 IH3 ORBITER (TRIPS) WINDOWS

## WINDOWS

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(RE109)

## PARAMETRIC DATA

RUN/L = 5.000    BETA = .0000    ALPHA = .0000    ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RUN/L PER FT	PO PSIA	TO DEG. R	H0 BTU/LBHM	RS F	RHOEL SLUG/FT2SEC	ALPHA DEG.
52	5.300	.5053+.07	405.5	1292.	315.6	.1750-.01	.8274	.0000
53	5.300	.5027+.07	406.4	1299.	317.2	.1750-.01	.8269	.0000
54	5.300	.5137+.07	405.1	1278.	312.0	.1750-.01	.8320	.0000
55	5.300	.4987+.07	402.9	1298.	317.0	.1750-.01	.8201	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	WINDOW T/C NC	Z	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	GREF BTU/FT2SEC	QNOT BTU/FT2SEC	H/H/HT	TW DFG. R	TW STN NO R=0.9
53	1.0000	77.000	478.00	.4649	.5675	.6379	56.57	26.30	.4470	.590.8
53	1.0000	78.000	478.00	.6510	.7949	.8937	56.49	36.77	.4477	.591.8
55	1.0000	79.000	464.97	.6202	.7600	.8555	55.33	34.32	.4562	.602.8
53	1.0000	80.000	452.00	.3769	.4599	.5168	56.70	21.37	.4456	.589.2
53	1.0000	81.000	452.00	.5284	.6146	.7242	56.76	29.99	.4452	.588.5
53	2.0000	82.000	478.00	.2905	.3139	.3973	57.09	15.58	.4420	.584.3
53	2.0000	83.000	478.00	.3594	.4384	.4925	56.78	20.41	.4450	.588.1
55	2.0000	84.000	464.97	.3549	.4342	.4888	55.73	19.78	.4524	.597.7
53	2.0000	85.000	452.00	.2374	.2892	.3247	57.11	13.56	.4419	.584.1
53	2.0000	86.000	452.00	.3376	.4119	.4629	56.70	19.14	.4457	.589.1
55	3.0000	67.000	464.97	.1806	.2200	.2470	56.84	10.27	.4418	.583.7

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ARC 3.5-178 IH3

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(REFIC20)

## WINDOWS

ARC 3.5-178 IH3 O+T+S

## WINDOWS

IH3 O+T+S

RN/L = 5.000 BETA = .0000 ALPHA = -3.000 ELEVON = .0300

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
74	5.300	.5051-07	406.7	1295.	310.3	.1750-01	.8289	-3.000
76	5.300	.5017-07	406.9	1301.	317.8	.1750-01	.8270	-3.000
79	5.300	.4970-07	406.9	1309.	319.8	.1750-01	.8241	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	WINDOW	T/C NO	Z	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT <sup>2</sup> SEC	UDOT BTU/FT <sup>2</sup> SEC	HW/HWT	TW DEG. R	STN NO R=0.9
79	1.0000	77.000	478.00	.5397	.6576	.7383	57.60	31.09	.4423	589.5	.8010-02
79	1.0000	78.000	478.00	.7250	.8840	.9329	57.40	41.62	.4441	592.0	.1077-01
74	1.0000	79.000	464.97	.7626	.9262	1.037	57.84	44.11	.4336	571.7	.1121-01
79	1.0000	80.000	452.00	.5268	.6418	.7204	57.64	30.36	.4419	589.0	.7817-02
79	1.0000	81.000	452.00	.6163	.7510	.8431	57.58	35.49	.4424	589.7	.9147-02
79	2.0000	82.000	478.00	.4252	.4252	.4770	57.95	20.25	.4390	585.1	.5181-02
79	2.0000	83.000	478.00	.4170	.5079	.5700	57.73	24.08	.4410	587.8	.6186-02
79	2.0000	84.000	464.97	.4592	.5522	.6180	58.15	26.47	.4307	567.8	.6686-02
79	2.0000	85.000	452.00	.3210	.3907	.4383	57.89	18.58	.4396	585.9	.4760-02
79	2.0000	86.000	464.97	.4696	.5720	.6420	57.68	27.09	.4415	588.5	.6967-02
74	3.0000	87.000	464.97	.2412	.2920	.3263	58.76	14.17	.4249	560.1	.3537-02

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S

ORB BOTTOM SURFACE

PAGE 125  
(RE1001)

## ORBITER BOTTOM SUR

RN/L = 1.500    BETA = .0000    ALPHA = .0000    ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBMIN	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
3	5.300	.1491+07	65.6	1581.	390.9	.1750-01	.2979	.0000
5	5.300	.1411+07	141.9	1487.	366.2	.1750-01	.2656	.0000
9	5.300	.1476+07	122.8	1322.	323.2	.1750-01	.2472	.0000
10	5.300	.1454+07	18.8	1307.	319.3	.1750-01	.2407	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	Y	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT <sup>2</sup> SEC	QDOT BTU/FT <sup>2</sup> SEC	HW/HT	HW/HT	STN NO R=0.9
9	50.000	.20000	93.000	.2765-01	.3333-01	.3715-01	.9317	.4135	.557.0	.7450-03
9	50.000	.30000	94.000	.7612-01	.9179-01	.1023	.33.67	.2.563	.4.440	.2052-02
9	50.000	.40000	95.000	.4642-01	.5597-01	.6238-01	.33.68	1.564	.4.138	.1251-02
9	50.000	.50000	96.000	.4118-01	.4965-01	.5534-01	.33.68	1.387	.4.138	.1110-02
9	50.000	.60000	97.000	.3583-01	.4321-01	.4816-01	.33.67	1.206	.4.141	.557.7
9	50.000	.70000	98.000	.2911-01	.3510-01	.3912-01	.33.70	.9811	.4.135	.556.9
9	50.000	.80000	99.000	.7646-01	.9215-01	.1027	.33.75	.2.581	.4.127	.555.9
9	50.000	.90000	100.00	.1378-01	.1659-01	.1849-01	.33.82	.4659	.4.114	.554.1

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S

## ORBITER BOTTOM SUR

ORB BOTTM SURFACE

## PARAMETRIC DATA

RN/L = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

\*\*\* TEST CONDITIONS \*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PS1A	TO DEG. R	HO BTU/ LBM	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.
15	5.300	.4972+07	405.4	1305.	318.9	.1750-01	.8223	.0000
16	5.300	.4953+07	406.3	1310.	320.2	.1750-01	.8223	.0000
17	5.300	.5006+07	405.7	1300.	317.6	.1750-01	.8248	.0000
18	5.300	.5098+07	404.9	1284.	313.4	.1750-01	.8294	.0000

\*\*\* TEST DATA \*\*\*

RUN NUMBER	Y	X/1	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QDT BTU/ FT2SEC	HW/HT BTU/ FT2SEC	HW/HT BTU/ FT2SEC	TH DEG. R	STN NO R=0.9
18	50.000	20000	93.000	.3506-01	.4250-01	.4755-01	57.67	2.022	.4287	560.0	.5130-03
18	50.000	.30000	94.000	.9143-01	.1109	.1241	57.58	5.265	.4296	561.2	.1339-02
18	50.000	.40000	95.000	.6537-01	.7928-01	.8872-01	57.54	3.762	.4299	561.6	.9369-03
18	50.000	.50000	95.000	.6510-01	.7897-01	.8839-01	57.46	3.741	.4307	562.7	.9531-03
18	50.000	.60000	97.000	.5420-01	.6579-01	.7366-01	57.31	3.106	.4322	564.6	.7910-03
18	50.000	.70000	98.000	.4377-01	.5310-01	.5944-01	57.41	2.513	.4312	563.3	.6409-03
18	50.000	.80000	99.000	.1000+00	.1213	.1358	57.45	5.744	.4309	562.8	.1454-02
18	50.000	.90000	100.00	.2035-01	.2468-01	.2761-01	57.58	1.172	.4296	561.2	.2979-03

DATE 24 JAN 76

ARC 3.5-178 IH3

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ARC 3.5-178 IH3 O+T+S (TRIPS)

(IRE1033)

## ORBITER BOTTOM SUR

## ORB BOTTM SURFACE

PARAMETRIC DATA

ELEVON = .0000

ALPHA = .0000

BETA = .0000

RHO/L = 1.500

PO =

TO =

HD =

BTU/

LBM =

DEG. R =

PSIA =

PER FT =

RUN NUMBER =

MACH =

\*\*\*TEST CONDITIONS\*\*\*

RN/L =

PO =

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BTU/

LBM =

DEG. R =

PSIA =

PER FT =

RUN NUMBER =

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DATE 24 JAN 78

ARC 3.5-178 IH3

## ARC 3.5-178 IH3 0+1+S (TRIPS) ORB BOTTH SURFACE

## ORBITER BOTTOM SUR

PARAMETRIC DATA											
RN/L	=	5.000	BETA	=	.0000	ALPHA	=	.0000	ELEVON	=	.0000
***TEST CONDITIONS***											
RUN NUMBER	MACH	RN/L 2ER FT	PO PS1A	TO DEG. R	HO BTU/ LBH	RS F	RHOEL SLUG/ FT2SEC	ALPHA DEG.			
29	5.300	.4977+07	406.3	1307.	319.2	.1750-01	.8238	.0000			
30	5.300	.5006+07	406.2	1302.	317.9	.1750-01	.8254	.0000			
31	5.300	.5006+07	406.4	1302.	318.0	.1750-01	.8257	.0000			
32	5.300	.5039+07	406.7	1297.	316.8	.1750-01	.8281	.0000			
***TEST DATA***											
RUN NUMBER	Y	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HT	HW/HT	STN NO R=0.9
32	50.000	.20000	93.000	.4254-01	.5183-01	.5818-01	57.05	2.427	.4420	.583.6	.6278-03
32	50.000	.30000	94.000	.9467-01	.1152-01	.1291-01	57.45	5.439	.4382	.578.5	.1395-02
32	50.000	.40000	95.000	.5847-01	.7108-01	.7968-01	57.62	3.369	.4366	.576.4	.8613-03
32	50.000	.50000	96.000	.5677-01	.6902-01	.7737-01	57.63	3.272	.4365	.576.3	.8363-03
32	50.000	.60000	97.000	.6197-01	.6949-01	.57.53	2.932	.4374	.577.5	.7509-03	
32	50.000	.70000	98.000	.5096-01	.4685-01	.5251-01	57.65	2.222	.4363	.576.1	.5677-03
32	50.000	.80000	99.000	.9774-01	.1188-01	.1331-01	57.74	5.644	.4354	.574.9	.1439-02
32	50.000	.90000	100.00	.1948-01	.2366-01	.2650-01	57.92	1.128	.4337	.572.6	.2867-03

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S

## ORBITER BOTTOM SUR

## ORB BOTTOM SURFACE

RNL = 5.000 BETA = -5.000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.
36	5.300	.5031+07	406.1	1297.	316.8	.1750-01	.8269	.0000
37	5.300	.5149+07	401.9	1270.	309.8	.1750-01	.8285	.0000
38	5.300	.5055+07	406.0	1293.	315.8	.1750-01	.8282	.0000
39	5.300	.5045+07	406.2	1295.	316.3	.1750-01	.8279	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	Y	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HT	HW/HT	TH DEG. R	STN NO R=0.85
39	50.000	.20000	93.000	.1066	.1295	.11452	57.51	6.128	.4364	.575.2	.1569-02	
39	50.000	.30000	94.000	.9158-01	.1112	.1246	57.82	5.295	.4334	.571.3	.1347-02	
39	50.000	.40000	95.000	.6405-01	.7773-01	.8703-01	57.96	3.712	.4321	.569.5	.9417-03	
39	50.000	.50000	96.000	.6030-01	.7319-01	.8195-01	57.57	3.496	.4320	.569.5	.8867-03	
39	50.000	.60000	97.000	.5464-01	.6631-01	.7431-01	57.83	3.160	.4333	.571.2	.8037-03	
39	50.000	.70000	98.000	.4998-01	.6067-01	.6794-01	57.93	2.895	.4324	.570.0	.7350-03	
39	50.000	.80000	99.000	.4450	.1760	.1970	56.01	8.412	.4316	.568.9	.2132-02	
39	50.000	.90000	100.00	.1023-01	.1241-01	.1388-01	58.18	.5932	.4300	.566.8	.1503-03	

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(REC'D 05)

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 ORBITER

ORBITER BOTTOM SUR

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(RE1006)

ORB BOTM SURFACE

RNL = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RNL PER FT	PO PELA	TO DFG. R	HO BTU/LBM	RS FT	RHOEL SLUG/FT SEC	ALPHA DEG.
40	5.300	1636+07	130.4	1287.	314.1	1750-01	.26668	.0000
41	5.300	1582+07	126.6	1290.	315.0	1750-01	.25986	.0000
42	5.300	1522+07	122.7	1296.	316.5	1750-01	.25000	.0000
43	5.300	1516+07	123.1	1302.	318.0	1750-01	.25000	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	Y	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	HREF R=0.85	QREF BTU/FT SEC	QDOT BTU/FT SEC	HW/HF	HW/HF	TW DEG. R	STN NO R=0.9
40	50.000	.20000	93.000	.1501-01	.1825-01	.2046-01	32.35	.4857	.4364	.571.3	.3886-03	
40	50.000	.30000	94.000	.1021-01	.1239-01	.1388-01	32.58	.3326	.4325	.566.2	.2639-03	
40	50.000	.40000	95.000	.1092-01	.1325-01	.1483-01	32.64	.3563	.4315	.565.0	.2821-03	
40	50.000	.50000	96.000	.1340-01	.1626-01	.1820-01	32.67	.4378	.4310	.564.2	.3462-03	
40	50.000	.60000	97.000	.1218-01	.1478-01	.1654-01	32.67	.3979	.4310	.564.3	.3147-03	
40	50.000	.70000	98.000	.1313-01	.1593-01	.1783-01	32.70	.4295	.4304	.563.5	.3392-03	
40	50.000	.80000	99.000	.9293-02	.1127-01	.1261-01	32.75	.3044	.4296	.562.4	.2400-03	
40	50.000	.90000	100.00	.7882-02	.9553-02	.1059-01	32.76	.2582	.4295	.562.2	.2035-03	

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ARC 3.5-178 IH3

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(REF ID: 071)

## ORBITER BOTTOM SUR

ARC 3.5-178 IH3 ORBITER

## ORB BOTM SURFACE

RN/L = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSA	TO DEG. R	HO BTU/LBM	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
44	5.300	.5112+07	406.4	1285.	313.6	.1750-01	.8322	.0000
45	5.300	.5036+07	406.2	1297.	316.7	.1750-01	.8273	.0000
46	5.300	.5003+07	405.9	1301.	317.9	.1750-01	.8248	.0000
47	5.300	.5392+07	404.9	1240.	302.0	.1750-01	.8469	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	OREF	QDOT BTU/FT2SEC	HW/HT	TW DEG. R	STN NO R=0.9	
47	50.000	-20000	93.000	.1459-01	.1787-01	.2014-01	.52.75	.6396	.4560	.573.9
47	50.000	-30000	94.000	.1266-01	.1550-01	.1746-01	.52.89	.7694	.4545	.572.1
47	50.000	-40000	95.000	.3244-01	.3969-01	.4468-01	.53.07	.1.722	.4527	.569.8
47	50.000	-50000	96.000	.3980-01	.4869-01	.5481-01	.53.11	.2.113	.4524	.569.4
47	50.000	-60000	97.000	.4090-01	.5005-01	.5635-01	.53.04	.2.169	.4531	.570.3
47	50.000	-70000	98.000	.4387-01	.5365-01	.6038-01	.53.20	.2.334	.4514	.568.3
47	50.000	-80000	99.0C3	.4226-01	.5166-01	.5812-01	.53.32	.2.254	.4502	.566.7
47	50.000	-90000	100.00	.3346-01	.4090-01	.4602-01	.53.31	.1.784	.4503	.566.8

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ABC Z 5-178 142

ANSWER

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## **REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR**

DATE 24 JAN 76

ARC 3.5-178 IH3

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(RE ID09)

## ORBITER BOTTOM SUR

ARC 3.5-178 IH3 ORBITER (TRIPS) ORS BOTTOM SURFACE

RN/L	=	5.000	BETA	=	.0000	ALPHA	=	.0000	ELEVON	=	.0000
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## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	P0 PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
52	5.300	.5051+07	405.5	1292.	315.6	.1750-01	.8274	.0000
53	5.300	.5027+07	406.4	1299.	317.2	.1750-01	.8269	.0000
54	5.300	.5137+07	405.1	1278.	312.0	.1750-01	.8320	.0000
55	5.300	.4987+07	402.9	1298.	317.0	.1750-01	.8201	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	Y	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HPEF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HM/HIT	HM/HIT	HM/HIT	TH DEG. R	STN NO R=0.9
55	50.000	.20000	93.000	.6082-01	.7420-01	.8338-01	56.43	3.432	.4457	.588	.588	.9	.9032-03
55	50.000	.30000	94.000	.4772-01	.5801-01	.6502-01	57.40	2.739	.4365	.576	.576	.7	.7065-03
55	50.000	.40000	95.000	.4137-01	.5022-01	.5624-01	57.78	2.390	.4329	.571	.571	.9	.6118-03
55	50.000	.50000	96.000	.4019-01	.4877-01	.5460-01	57.90	2.327	.4317	.570	.570	.3	.5941-03
55	50.000	.60000	97.000	.3772-01	.4579-01	.5127-01	57.82	2.181	.4325	.571	.571	.4	.5578-03
55	50.000	.70000	96.000	.3913-01	.4747-01	.5314-01	57.94	2.267	.4314	.569	.569	.9	.5783-03
55	50.000	.80000	99.000	.3997-01	.4726-01	.5288-01	58.11	2.265	.4297	.567	.567	.7	.5757-03
55	50.000	.90000	100.00	.3031-01	.3675-01	.4111-01	58.17	1.763	.4292	.567	.567	.0	.4477-03

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S

## ORBITER BOTTOM SUR

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1RE1D191

## ORB BOTM SURFACE

RN/L = 5.000    BETA = .0000    ALPHA = -5.000    ELEVON = .0000

PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOVEL SLUG/FT2SEL	ALPHA DEG.
70	5.300	.4906+.07	407.3	1320.	322.8	.1750-.01	.8205	-5.000
71	5.300	.5001+.07	406.8	1303.	318.4	.1750-.01	.8258	-5.000
72	5.300	.4987+.07	403.9	1300.	317.5	.1750-.01	.8213	-5.000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	Y	X/L	T/C NO	H/HREF R=1.0	H/HREF R=.9	H/HREF R=.85	QDOT BTU/FT2SEC	HW/HIT	TW DEG. R	STN NO R+.9
70	50.000	.20000	93.000	.5918-01	.7125-01	.7935-01	61.68	3.650	.4099	.551.3
70	50.000	.30000	94.000	.8983-01	.1081	.1204	61.73	5.545	.4094	.550.7
70	50.000	.40000	95.000	.6532-01	.7864-01	.8756-01	61.73	4.032	.4094	.550.7
70	50.000	.50000	96.000	.6653-01	.8022-01	.8934-01	61.66	4.108	.4100	.551.5
70	50.000	.60000	97.000	.6664-01	.8029-01	.8945-01	61.47	4.096	.4118	.554.0
70	50.000	.70000	98.000	.5855-01	.7050-01	.7852-01	61.64	3.609	.4102	.551.8
70	50.000	.80000	99.000	.1235	.1487	.1655	61.74	7.625	.4092	.550.5
70	50.000	.90000	100.00	.2690-01	.3236-01	.3602-01	61.89	1.665	.4079	.548.7

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ARC 3.5-178 IH3

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IREID201

## ORBITER BOTTOM SUR

ARC 3.5-178 IH3

ORB BOTTM SURFACE

PARAMETRIC DATA	
RN/L	BETA = .0000
	ALPHA = -3.000
	ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	P0 PSIA	T0 DEG. R	HO BTU/LBMIN	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
74	5.300	.5051+07	406.7	1295.	316.3	.1750-01	.8289	-3.000
76	5.300	.5017+07	406.9	1301.	317.8	.1750-01	.8270	-3.000
79	5.310	.4970+07	406.9	1309.	319.8	.1750-01	.8241	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/SEC	QDOT BTU/SEC	HW/HT	TW DEG. R	STN NO R=0.9
74	.20000	93.000	.5168-01	.6261-01	.7001-01	.58.55	3.026	.4269	.7583-03
74	.30000	94.000	.8783-01	.1063	.1188	.58.84	5.168	.4424	.559.2
74	.40000	95.000	.6455-01	.7809-01	.8721-01	.58.93	3.804	.4233	.558.0
74	.50.000	.50.000	.6348-01	.7681-01	.8581-	.58.90	3.739	.4236	.558.5
74	.50.000	.50.000	.6348-01	.7635-01	.8534-01	.58.74	3.705	.4251	.560.4
74	.50.000	.50.000	.6307-01	.7639-01	.7417-01	.58.93	3.234	.4233	.558.1
74	.50.000	.50.000	.5487-01	.6639-01	.7417-01	.59.05	6.449	.4222	.556.6
74	.50.000	.50.000	.1092	.1321	.1475	.59.23	1.756	.4204	.554.3
74	.50.000	.50.000	.2965-01	.3583-01	.4000-01	.59.23			

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ARC 3.5-178 IH3

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ORBITER SIDE

ARC 3.5-178 IH3  
ORB SIDE

(RE1E01)

RNL = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## PARAMETRIC DATA

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/LAM	RS FT	RHOVEL SLUG/FT SEC	ALPHA DEG.
3	5.300	.1491+07	165.6	1581.	390.9	.1750-01	.2979	.0000
5	5.300	.1411+07	141.9	1487.	266.2	.1750-01	.2856	.2000
9	5.300	.1476+07	122.8	1322.	323.2	.1750-01	.2471	.0000
10	5.300	.1454+07	118.8	1307.	319.3	.1750-01	.2407	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	Z	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT SEC	QDOT BTU/FT SEC	HT/HHT	TH DEG. R	STN NO R=0.9
10	350.00	.00000	122.00	.1874-01	.2265-01	.2530-01	32.24	.6041	.4219	561.4	.5109-03
10	350.00	.80000	123.00	.1501-01	.1814-01	.2026-01	32.32	.4852	.4205	559.6	.4092-03
10	.90000	.2937-01	.3550-01	.3964-01	.3964-01	.32.27	.9476	.4214	.8005-03		
10	.97500	.124.00	.3215-01	.3889-01	.4344-01	.32.18	1.035	.4229	.562.8	.8769-03	
10	.350.00	.125.00	.32.15	.3889	.4344	.32.18					
9	.30000	.134.00	.2958-01	.3567-01	.3975-01	.33.67	.9961	.4140	.557.7	.7973-03	
9	.430.00	.135.00	.2898-01	.3493-01	.3893-01	.33.71	.9770	.4133	.556.7	.7808-03	
9	.40000	.135.00	.2898-01	.3493-01	.3893-01	.33.71					
10	.530.00	.136.00	.3532-01	.4269-01	.4767-01	.32.28	.1.140	.4212	.560.5	.9627-03	
10	.60000	.137.00	.3421-01	.4111-01	.4591-01	.32.26	.1.097	.4216	.561.0	.9271-03	
10	.430.00	.138.00	.2523-01	.3051-01	.3408-01	.32.22	.8128	.4222	.561.9	.6880-03	
10	.70000	.139.00	.2404-01	.2906-01	.3245-01	.32.26	.7754	.4216	.561.0	.6554-03	
10	.80000	.141.00	.2200-01	.2661-01	.2972-01	.32.19	.7082	.4228	.562.6	.6000-03	
10	.30000	.141.00	.2200-01	.2661-01	.2972-01	.32.19					
10	.478.80	.142.00	.8423-02	.1018-01	.1137-01	.32.26	.2717	.4216	.561.0	.2297-03	
10	.40000	.142.00	.8423-02	.1018-01	.1137-01	.32.26					
10	.478.80	.143.00	.4485-02	.5423-02	.6056-02	.32.24	.1446	.4220	.561.5	.1223-03	
10	.50000	.143.00	.4485-02	.5423-02	.6056-02	.32.24					
10	.60000	.144.00	.1535-01	.1855-01	.2072-01	.32.27	.4952	.4214	.560.8	.4184-03	
10	.70000	.145.00	.3364-01	.4067-01	.4541-01	.32.27	.1.086	.4214	.560.7	.9171-03	

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ARC 3.5-178 1H3

ARC 3.5-178 1H3 0+T+S

ORBITER SIDE

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TREIE021

## ORBITER SIDE

	RN/L	=	5.000	BETA	=	.0000	ALPHA	=	.0000	ELEVON	=	.0000

## PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.
15	5.300	.4972+07	405.4	1305.	318.9	.1750-01	.8223	.0000
16	5.300	.4953+07	406.3	1310.	320.2	.1750-01	.8223	.0000
17	5.269	.5006+07	405.7	1300.	317.6	.1750-01	.8248	.0000
18	5.300	.5098+07	404.9	1284.	313.4	.1750-01	.8294	.0000

## \*\*\*TES: CONDITIONS\*\*\*

RN/L	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	Z	X/L	T C NO	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QDOT BTU/ FT2SEC	HW/HF	HW/HF	STN NO R=0.9	
16	350.00	.30000	122.00	.3319-01	.4014-01	.4484-01	.59.70	1.981	.4229	.564.4	.4902-03
16	350.00	.80000	123.00	.1975-01	.2388-01	.2666-01	.59.93	1.184	.4208	.561.5	.2916-03
16	350.00	.90000	124.00	.4020-01	.4864-01	.5435-01	.59.50	2.396	.4239	.565.7	.5939-03
15	350.00	.97500	125.00	.2763-01	.3348-01	.3745-01	.59.20	1.636	.4276	.5707	.4088-03
18	430.00	.30200	134.00	.358C-01	.4345-01	.4855-01	.57.33	2.052	.4320	.564.3	.5244-03
18	430.00	.40000	125.00	.4261-01	.5170-01	.5788-01	.57.41	2.46	.4312	.563.3	.6240-03
16	430.00	.50000	136.00	.4473-01	.5408-01	.6039-01	.59.86	2.578	.4214	.562.4	.6605-03
16	430.00	.60000	137.00	.4267-01	.5147-01	.5748-01	.59.84	2.647	.4216	.562.7	.6286-03
16	430.00	.70300	138.00	.3864-01	.4675-01	.5223-01	.59.64	2.1	.4235	.565.2	.5708-03
16	430.00	.81360	139.00	.3833-01	.4636-01	.5179-01	.59.73	2.20	.4227	.564.1	.5662-03
16	478.80	.30000	141.00	.34E4-01	.4199-01	.4698-01	.59.07	2.046	.4288	.572.3	.5126-03
16	478.80	.4C000	142.00	.3704-01	.4436-01	.5017-01	.59.28	2.196	.4268	.569.6	.5477-03
16	478.80	.50200	143.00	.4020-01	.4870-01	.5444-01	.59.28	2.383	.4268	.569.5	.5946-03
16	478.80	.60000	144.00	.3398-01	.4115-01	.4599-01	.59.41	2.019	.4257	.568.1	.5024-03
16	478.80	.70000	145.00	.3347-01	.4052-01	.4528-01	.59.52	1.993	.4246	.566.6	.4947-03

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ARC 3.5-178 IH3

ORBITER SIDE

ARC 3.5-178 1H3

ARC 3.5-178 1H3 O+T+S (TRIPS)

ORB SIDE

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(RE1003)

RN/L = 1.500    BETA = .0000    ALPHA = .0000    ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
19	5.300	.1500+.07	122.6	1308.	319.5	.1750-.01	.2485	.0000
20	5.300	.1537+.07	121.3	1279.	312.1	.1750-.01	.2491	.0000
21	5.300	.1523+.07	122.0	1291.	315.3	.1750-.01	.2492	.0000
22	5.300	.1470+.07	122.1	1321.	322.9	.1750-.01	.2459	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	Z	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HM/HT	HM/HT	STN NO R=0.9
21	350.00	.30000	122.00	.2152-01	.2608-01	.2917-01	.31.89	.6865	.4280	.562.4	.5755-03
21	350.00	.80000	123.00	.1585-01	.1919-01	.2445-01	.32.01	.5072	.4261	.559.8	.4235-03
21	350.00	.90000	124.00	.3211-01	.2990-01	.4350-01	.31.95	.1.026	.4271	.561.2	.8583-03
21	350.00	.97500	125.00	.3290-01	.3988-01	.4461-01	.31.96	.1.048	.4287	.563.3	.8798-03
19	430.00	.30000	134.00	.1972-01	.2386-01	.2666-01	.32.67	.6444	.4237	.564.3	.5297-03
19	430.00	.40000	135.00	.1973-01	.2387-01	.2665-01	.32.76	.6465	.4222	.562.3	.5298-03
21	430.00	.50000	136.00	.2596-01	.3145-01	.3517-01	.31.93	.8290	.4273	.561.5	.6939-03
21	430.00	.60000	137.00	.3053-01	.3693-01	.4137-01	.31.93	.9749	.4274	.561.6	.8152-03
21	430.00	.70000	138.00	.2579-01	.3125-01	.3495-01	.31.91	.8229	.4278	.562.1	.6895-03
21	430.00	.80000	139.00	.2557-01	.3098-01	.3465-01	.31.95	.8170	.4271	.561.2	.6836-03
21	478.80	.30000	141.00	.2381-01	.2886-01	.3229-01	.31.84	.7580	.4291	.563.7	.6368-03
21	478.80	.40000	142.00	.8713-02	.1056-01	.1181-01	.31.88	.2778	.4282	.562.6	.2330-03
21	478.80	.50000	143.00	.5295-02	.6418-02	.7180-02	.31.87	.1688	.4285	.563.0	.1416-03
21	478.80	.60000	144.00	.2031-01	.2461-01	.2752-01	.31.91	.6481	.4277	.562.0	.5429-03
21	478.80	.70000	145.00	.2779-01	.3367-01	.3766-01	.31.93	.8874	.4274	.561.6	.7430-03



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(REF ID: S)

## ORBITER SIDE

ARC 3.5-178 IH3

ORB SIDE

	RN/L	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOVEL SLUG/ FT SEC	ALPHA DEG.	PARAMETRIC DATA	ELEVON = .0000
36	5.300	.5031+07	406.1	1297.	316.8	1750.01	.8269	.0000			
37	5.300	.5149+07	401.9	1270.	309.8	1750.01	.8285	.0000			
38	5.300	.5055+07	406.0	1293.	315.8	1750.01	.8282	.0000			
39	5.300	.5045+07	406.2	1295.	316.3	1750.01	.8279	.0000			

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT SEC	QDOT BTU/ FT SEC	4W/HT	4W/HT	STN NO R=0.9
37	350.00	.30000	122.00	.1067	.1293	.1447	.56.79	.4285	.553.3	.1556-02
37	350.00	.80000	123.00	.2539-01	.3074-01	.3435-01	.57.12	.4252	.549.1	.3698-03
37	350.00	.90000	124.00	.5842-01	.7080-01	.7918-01	.56.85	.4279	.552.6	.6516-03
37	350.00	.97500	125.00	.5381-01	.6531-01	.7313-01	.56.41	.4322	.558.1	.7856-03
39	430.00	.30000	134.00	.6511-01	.7908-01	.8858-01	.57.76	.4340	.572.0	.9579-03
39	430.00	.40000	135.00	.6657-01	.8080-01	.9046-01	.57.98	.4319	.569.3	.9789-03
37	430.00	.50000	136.00	.6545-01	.7924-01	.9857-01	.57.12	.4253	.549.1	.9535-03
37	430.10	.60000	137.07	.7355-01	.8905-01	.9953-01	.57.12	.4202	.4252	.1071-02
37	430.00	.70000	138.00	.6818-01	.8259-01	.9235-01	.56.96	.4268	.551.2	.9937-03
37	430.00	.80000	139.00	.5738-01	.6930-01	.7771-01	.56.99	.4265	.550.8	.8362-03
37	478.80	.30000	141.00	.4997-01	.6074-01	.6807-01	.56.01	.4361	.563.1	.7304-03
37	478.80	.40000	142.00	.4941-01	.5994-01	.6708-01	.56.58	.4305	.555.9	.7210-03
37	478.80	.50000	143.00	.5159-01	.6257-01	.7003-01	.56.62	.4301	.555.4	.7527-03
37	478.80	.60000	144.00	.4472-01	.5421-01	.6065-01	.56.77	.4287	.553.6	.6522-03
37	478.80	.70000	145.00	.3660-01	.4435-01	.4960-01	.56.86	.4277	.552.4	.5335-03

\*\*\*TEST DATA\*\*\*

RUN NUMBER	Z	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT SEC	QDOT BTU/ FT SEC	4W/HT	4W/HT	STN NO R=0.9
37	350.00	.30000	122.00	.1067	.1293	.1447	.56.79	.4285	.553.3	.1556-02	
37	350.00	.80000	123.00	.2539-01	.3074-01	.3435-01	.57.12	.4252	.549.1	.3698-03	
37	350.00	.90000	124.00	.5842-01	.7080-01	.7918-01	.56.85	.4279	.552.6	.6516-03	
37	350.00	.97500	125.00	.5381-01	.6531-01	.7313-01	.56.41	.4322	.558.1	.7856-03	
39	430.00	.30000	134.00	.6511-01	.7908-01	.8858-01	.57.76	.4340	.572.0	.9579-03	
39	430.00	.40000	135.00	.6657-01	.8080-01	.9046-01	.57.98	.4319	.569.3	.9789-03	
37	430.00	.50000	136.00	.6545-01	.7924-01	.9857-01	.57.12	.4253	.549.1	.9535-03	
37	430.10	.60000	137.07	.7355-01	.8905-01	.9953-01	.57.12	.4202	.4252	.1071-02	
37	430.00	.70000	138.00	.6818-01	.8259-01	.9235-01	.56.96	.4268	.551.2	.9937-03	
37	430.00	.80000	139.00	.5738-01	.6930-01	.7771-01	.56.99	.4265	.550.8	.8362-03	
37	478.80	.30000	141.00	.4997-01	.6074-01	.6807-01	.56.01	.4361	.563.1	.7304-03	
37	478.80	.40000	142.00	.4941-01	.5994-01	.6708-01	.56.58	.4305	.555.9	.7210-03	
37	478.80	.50000	143.00	.5159-01	.6257-01	.7003-01	.56.62	.4301	.555.4	.7527-03	
37	478.80	.60000	144.00	.4472-01	.5421-01	.6065-01	.56.77	.4287	.553.6	.6522-03	
37	478.80	.70000	145.00	.3660-01	.4435-01	.4960-01	.56.86	.4277	.552.4	.5335-03	

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

DATE 24 JAN 76

ARC 3.5-178 1H3

ARC 3.5-178 1H3 ORBITER

ORB SIDE

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(REF 106)

ORBITER SIDE

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	PARAMETRIC DATA		ELEVON • .0000
							•••TEST CONDITIONS••	ALPHA • .0000	
40	5.300	.1636+07	130.4	1287.	314.1	.1750-01	.2868	.0000	
41	5.300	.1582+07	126.6	1290.	315.0	.1750-01	.2596	.0000	
42	5.300	.1522+07	122.7	1296.	316.5	.1750-01	.2500	.0000	
43	5.300	.1516+07	123.1	1302.	318.0	.1750-01	.2500	.0000	
•••TEST DATA••									
RUN NUMBER	Z	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ F12SEC	QDOT BTU/ F12SEC	HW/HIT
42	350.00	.30000	122.00	.5529-02	.6690-02	.7475-02	.32.36	.1789	.4239
42	350.00	.80000	123.00	.1481-01	.1792-01	.2002-01	.32.37	.4793	.4238
42	350.00	.90000	124.00	.4163-01	.5039-01	.5632-01	.32.31	.1345	.4247
42	350.00	.97500	125.00	.3212-01	.3889-01	.4349-01	.32.28	.1037	.4253
40	430.00	.30000	134.00	.2788-01	.3389-01	.3729-01	.32.61	.9094	.4320
40	430.00	.40000	135.00	.3040-01	.3687-01	.4125-01	.32.72	.9947	.4301
42	430.00	.50000	136.00	.2033-01	.2459-01	.2718-01	.32.38	.6581	.4236
42	430.00	.60000	137.00	.2414-01	.2921-01	.3264-01	.32.38	.7818	.4236
42	430.00	.70000	138.00	.3498-01	.4232-01	.4729-01	.32.37	.1.132	.4238
42	430.00	.80000	139.00	.3618-01	.4377-01	.4893-01	.32.38	.1.172	.4236
42	478.80	.30000	141.00	.2075-01	.2511-01	.2806-01	.32.32	.6706	.4246
42	478.80	.40000	142.00	.1305-01	.1579-01	.1765-01	.32.32	.4218	.4246
42	478.80	.50000	143.00	.3164-02	.3829-02	.4280-02	.32.32	.1023	.4246
42	478.80	.60000	144.00	.7331-02	.8873-02	.9915-02	.32.34	.2371	.4214
42	478.80	.70000	145.00	.1436-01	.1739-01	.1942-01	.32.35	.4647	.4247

STN NO  
R=0.9  
.1476-03  
.3953-03  
.1112-02  
.8580-03  
.7206-03  
.7851-03  
.5426-03  
.6445-03  
.9337-03  
.9657-03  
.5540-03  
.3484-03  
.8448-04  
.1957-03  
.3835-03

DATE 24 JAN 76

AHC 3.5-178 IH3

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(REF 107)

## ORBITER SIDE

ARC 3.5-178 IH3 ORBITER

ORB SIDE

	RN/L	5.000	BETA	- .0000	ALPHA	- .0000	ELEVON	- .0000
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\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	T0 DEG. R	HO BTU/LBMIN	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
44	5.300	.5112+07	406.4	1285.1	313.6	.1750-01	.8322	.0000
45	5.300	.5036+07	406.2	1297.1	316.7	.1750-01	.8273	.0000
46	5.300	.5003+07	405.9	1301.1	317.9	.1750-01	.8248	.0000
47	5.300	.5392+07	404.9	1240.1	302.0	.1750-01	.8469	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	Z	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT2SEC R=0.85	QDOT BTU/FT2SEC	HW/HT	TW DEG. R	STN NO R=0.9
45	350.00	.30000	122.00	.7973-02	.9675-02	.1083-01	.58.09	.4631	.4316	.569.6
45	350.00	.60000	123.00	.1976-01	.2397-01	.2683-01	.58.19	.1150	.4320	.569.3
45	350.00	.90000	124.00	.3473-01	.4216-01	.4742-01	.57.95	.2013	.4362	.571.2
45	350.00	.97500	125.00	.2898-01	.3523-01	.3919-01	.57.60	.1669	.575.7	.4270
47	430.00	.30000	134.00	.3045-01	.3728-01	.4200-01	.52.89	.1.611	.4545	.572.1
47	430.00	.40000	135.70	.3842-01	.4701-01	.5292-01	.53.06	.2.039	.4526	.569.8
45	430.00	.50000	136.70	.3689-01	.4473-01	.5005-01	.58.31	.2.151	.4295	.566.8
45	430.00	.60000	137.00	.3564-01	.4323-01	.4837-01	.58.27	.2.077	.4298	.567.2
45	430.00	.70000	138.00	.3230-01	.3919-01	.4387-01	.58.13	.1.878	.4312	.569.1
45	430.00	.89000	139.00	.4282-01	.5194-01	.5813-01	.58.20	.2.492	.4305	.568.1
45	478.80	.30000	141.00	.3154-01	.3835-01	.4300-01	.57.49	.1.813	.4372	.577.0
45	478.80	.40000	142.00	.2787-01	.3386-01	.3794-01	.57.74	.1.609	.4348	.573.9
45	478.80	.50000	143.00	.3946-01	.4795-01	.5372-01	.57.73	.2.278	.4350	.574.1
45	478.80	.60000	144.00	.3514-01	.4267-01	.4779-01	.57.89	.2.034	.4335	.572.1
45	478.80	.70000	145.00	.3465-01	.4206-01	.4710-01	.58.01	.2.010	.4323	.570.5

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ARC 3.5-178 IH3

ARC 3.5-178 IH3 ORBITER (TRIP) ORB SIDE

ORBITER SIDE

PAGE 143  
(REF 108)

## PARAMETRIC DATA

RN/L = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	PROVEL SLUG/ FT2SEC	ALPHA DEG.
48	5.300	.1533+07	123.1	1293.	315.7	.1750-01	.2511	.0000
49	5.300	.1526+07	122.7	1294.	315.9	.1750-01	.2502	.0000
50	5.300	.1431+07	118.7	1320.	322.6	.1750-01	.2392	.0000
51	5.300	.1495+07	121.6	1304.	318.4	.1750-01	.2469	.0000

## \*\*\*TEST DATA\*\*\*

PJN NUMBER	Z	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QDQT BTU/ FT2SEC	H/H/HT	TW DEG. R	STN NO R=0.9
50	350.00	.3000	122.00	.2776-01	.2615-01	.2909-01	.33.55	.7299	.40.52	.544.7
50	350.00	.8000	123.00	.1164-01	.1395-01	.1556-01	.33.56	.3907	.4049	.544.4
50	350.00	.9000	124.00	.3298-01	.3965-01	.4411-01	.33.51	.1103	.4058	.545.6
50	350.00	.9750	125.00	.2661-01	.3201-01	.3561-01	.33.49	.8909	.4064	.546.4
50	350.00	1.3000	134.00	.1843-01	.2236-01	.2502-01	.31.97	.5893	.4299	.4916-03
48	430.00	.4000	135.00	.1909-01	.2313-01	.2586-01	.32.09	.6121	.4276	.562.6
48	430.00	.5000	136.00	.1332-01	.1607-01	.1781-01	.33.56	.4472	.4049	.544.3
50	430.00	.6000	137.00	.2102-01	.2527-01	.2811-01	.33.57	.7057	.4048	.544.2
50	430.00	.7000	138.00	.3250-01	.3615-01	.33.56	.9072	.4050	.4050	.544.5
50	430.00	.8000	139.00	.3110-01	.3737-01	.4157-01	.33.59	.1.044	.4046	.543.9
50	478.80	.3000	141.00	.2203-01	.2650-01	.2948-01	.33.48	.7376	.4064	.546.4
50	478.80	.4000	142.00	.1304-01	.1568-01	.1744-01	.33.49	.4367	.4061	.546.0
50	478.80	.5000	143.00	.5138-02	.6179-02	.6874-02	.33.49	.1721	.4061	.545.9
50	478.80	.6000	144.00	.6241-02	.7504-02	.8349-02	.33.51	.2092	.4057	.545.5
50	478.80	.7000	145.00	.1631-01	.1960-01	.2180-01	.33.55	.5470	.4052	.544.7

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ARC 3.5-178 1H3

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(REF 1E09)

## ORBITER SIDE

ARC 3.5-178 1H3 ORBITER (TRIPS) ORB SIDE

	RN/L	=	5.000	BETA	=	.0000	ALPHA	=	.0000	ELEVON	=	.0000
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\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.
52	5.300	.5053+07	405.5	1292.	315.6	.1750-01	.8274	.0000
53	5.300	.5027+07	406.4	1299.	317.2	.1750-01	.8269	.0000
54	5.300	.5137+07	405.1	1278.	312.0	.1750-01	.8320	.0000
55	5.300	.4987+07	402.9	1298.	317.0	.1750-01	.8201	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	Z	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	GREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	H/H/HT	TH DEG. R	STN NO R=0.9
53	350.00	.30000	122.00	.3583-01	.4346-01	.4863-01	.58.32	.2.089	.4304	.568.9	.5273-03
53	350.00	.80000	123.00	.1721-01	.2086-01	.2334-01	.58.48	.1.007	.4288	.566.8	.2532-03
53	350.00	.90000	124.00	.2695-01	.3270-01	.3661-01	.58.22	.1.569	.4313	.570.1	.3969-03
53	350.00	.97500	125.00	.2595-01	.3153-01	.3533-01	.57.82	.1.501	.4351	.575.1	.3825-03
53	350.00	1.34.00	134.00	.3225-01	.3955-01	.4431-01	.57.59	.1.875	.4347	.574.3	.4817-03
55	430.00	.40000	135.00	.3632-01	.4406-01	.4932-01	.57.97	.2.105	.4311	.569.5	.5368-03
53	430.00	.50000	136.00	.3375-01	.4090-01	.4575-01	.58.54	.1.976	.4283	.566.1	.4963-03
53	430.00	.60000	137.00	.3257-01	.3947-01	.4415-01	.58.54	.1.907	.4283	.566.1	.4790-03
53	430.00	.70000	138.00	.2938-01	.3562-01	.3986-01	.58.40	.1.716	.4297	.567.9	.4323-03
53	430.00	.80000	139.00	.3946-01	.4784-01	.5353-01	.58.45	.2.307	.4291	.567.2	.5806-03
53	478.80	.30000	141.00	.3427-01	.4167-01	.4672-01	.57.62	.1.975	.4370	.577.6	.5055-03
53	478.80	.40000	142.00	.3053-01	.3708-01	.4153-01	.57.99	.1.771	.4335	.573.0	.4498-03
53	478.80	.50000	143.00	.3991-01	.4846-01	.5428-01	.58.01	.2.315	.4333	.572.8	.5879-03
53	478.80	.60000	144.00	.3554-01	.4312-01	.4828-01	.58.19	.2.068	.4316	.570.5	.5232-03
53	478.80	.70000	145.00	.3433-01	.4163-01	.4659-01	.58.33	.2.002	.4302	.568.7	.5052-03

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ARC 3.5-178 IH3

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(REF 19)

ORBITER SIDE

ARC 3.5-178 IH3 0+T+S

ORB SIDE

RN/L	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT <sup>2</sup> SEC	ALPHA DEG.	ELEVON = .0000
70	5.300	.4906+07	407.3	1320.	322.8	.1750-01	.8205	-5.000	
71	5.300	.5001+07	406.8	1303.	318.4	.1750-01	.8258	-5.000	
72	5.300	.4987+07	403.9	1300.	317.5	.1750-01	.8213	-5.000	

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	PO BTU/ FT <sup>2</sup> SEC	QREF BTU/ FT <sup>2</sup> SEC	QDOT BTU/ FT <sup>2</sup> SEC	H/H/T	TH DEG. R
70	122.00	2992-01	3622-01	4047-01	59.19	1.771	.4247	563.6	.4405-03
71	123.00	2703-01	3270-01	3653-01	59.33	1.604	.4234	561.9	.3977-03
72	124.00	5004-01	6061-01	6776-01	59.03	2.954	.4262	565.6	.7370-03
73	125.00	4122-01	4999-01	5594-01	58.65	2.418	.4298	570.3	.6078-03
74	134.00	7770-01	5749-01	6405-01	61.37	2.927	.4127	555.1	.7050-03
75	135.00	4620-01	5806-01	6468-01	61.52	2.965	.4113	553.3	.7121-03
76	136.00	4411-01	4983-01	5569-01	59.21	2.438	.4245	563.3	.6060-03
77	137.00	3902-01	4723-01	5279-01	59.16	2.308	.4250	564.0	.5744-03
78	138.00	4659-01	5645-01	6312-01	58.93	2.746	.4272	566.9	.6864-03
79	139.00	6491-01	7860-01	8786-01	59.07	3.834	.4258	565.1	.9559-03
80	140.00	3986-01	4834-01	5410-01	58.58	2.335	.4305	571.2	.5878-03
81	141.00	4566-01	5534-01	6190-01	58.83	2.686	.4281	568.1	.6729-03
82	142.00	4776-01	5789-01	6475-01	58.80	2.808	.4284	566.5	.7038-03
83	143.00	4673-01	5662-01	6332-01	58.89	2.752	.4276	567.4	.6884-03
84	144.00	5587-01	.6768-01	.7568-01	58.95	3.294	.4269	566.6	.8231-03

\*\*\*TEST DATA\*\*\*

RUN NUMBER	Z	H/HREF R=0.9	PO BTU/ FT <sup>2</sup> SEC	QREF BTU/ FT <sup>2</sup> SEC	QDOT BTU/ FT <sup>2</sup> SEC	H/H/T	TH DEG. R	STN NO R=0.9			
71	350.00	300000	122.00	2992-01	3622-01	4047-01	59.19	1.771	.4247	563.6	.4405-03
71	350.00	800000	123.00	2703-01	3270-01	3653-01	59.33	1.604	.4234	561.9	.3977-03
71	350.00	900000	124.00	5004-01	6061-01	6776-01	59.03	2.954	.4262	565.6	.7370-03
71	350.00	97500	125.00	4122-01	4999-01	5594-01	58.65	2.418	.4298	570.3	.6078-03
71	350.00	300000	134.00	7770-01	5749-01	6405-01	61.37	2.927	.4127	555.1	.7050-03
71	350.00	400000	135.00	4620-01	5806-01	6468-01	61.52	2.965	.4113	553.3	.7121-03
71	350.00	500000	136.00	4411-01	4983-01	5569-01	59.21	2.438	.4245	563.3	.6060-03
71	350.00	600000	137.00	3902-01	4723-01	5279-01	59.16	2.308	.4250	564.0	.5744-03
71	350.00	700000	138.00	4659-01	5645-01	6312-01	58.93	2.746	.4272	566.9	.6864-03
71	350.00	800000	139.00	6491-01	7860-01	8786-01	59.07	3.834	.4258	565.1	.9559-03
71	478.80	300000	141.00	3986-01	4834-01	5410-01	58.58	2.335	.4305	571.2	.5878-03
71	478.80	400000	142.00	4566-01	5534-01	6190-01	58.83	2.686	.4281	568.1	.6729-03
71	478.80	500000	143.00	4776-01	5789-01	6475-01	58.80	2.808	.4284	566.5	.7038-03
71	478.80	600000	144.00	4673-01	5662-01	6332-01	58.89	2.752	.4276	567.4	.6884-03
71	478.80	700000	145.00	5587-01	.6768-01	.7568-01	58.95	3.294	.4269	566.6	.8231-03

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ARC 3.5-178 IH3

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(REF 2)

## ORBITER SIDE

ARC 3.5-178 IH3

## PARAMETRIC DATA

RN/L = 5.000 BETA = .0000 ALPHA = -3.000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBH	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
74	5.300	.5051+07	406.7	1295.	316.3	.1750-01	.8289	-3.000
76	5.300	.5017+07	406.9	1301.	317.8	.1750-01	.8270	-3.000
79	5.300	.4970+07	406.9	1309.	319.8	.1750-01	.8241	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	Z	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HW/HIT	HW/HIT	TW DEG. R	STN NO R=0.9
74	430.00	.300000	134.00	.3812-01	.4618-01	.5164-01	.6569-01	.2.232	.4269	.562.8	.5593-03	
74	430.00	.400000	135.00	.4871-01	.5896-01	.6569-01	.58.79	.2.863	.4247	.559.8	.7142-03	
79	430.00	.500000	136.00	.4348-01	.5283-01	.5920-01	.58.35	.2.537	.4352	.580.1	.6438-03	
79	430.00	.600000	137.00	.4005-01	.4866-01	.5451-01	.58.43	.2.340	.4345	.579.1	.5929-03	
79	430.00	.700000	138.00	.4201-01	.5105-01	.5721-01	.58.35	.2.451	.4353	.580.1	.6221-03	
79	430.00	.800000	139.00	.5407-01	.6565-01	.7354-01	.58.55	.3.166	.4334	.577.6	.8001-03	
79	478.80	.300000	141.00	.4003-01	.4865-01	.5453-01	.58.28	.2.333	.4359	.581.0	.5928-03	
79	478.80	.400000	142.00	.3562-01	.4328-01	.4843-01	.58.41	.2.081	.4347	.579.3	.5273-03	
79	478.80	.500000	143.00	.4158-01	.5053-01	.5662-01	.58.31	.2.424	.4356	.580.6	.6157-03	
79	478.80	.600000	144.00	.4249-01	.5164-01	.5768-01	.58.28	.2.476	.4359	.581.0	.625.03	
79	478.80	.700000	145.00	.4057-01	.4930-01	.5525-01	.58.31	.2.366	.4356	.580.6	.6008-03	

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ARC 3.5-178 IH3

ARC 3.5-178 IH3 0+1+S

WING UPPER CREASE

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(REF01)

WING UPPER CREASE

WING UPPER CREASE

RN/L = 1.500

WING UPPER CREASE

BETA = .0000

WING UPPER CREASE

ALPHA = .0000

WING UPPER CREASE

ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
3	5.300	.1491+07	165.6	1581.	390.9	.1750-01	.2979	.0000
5	5.300	.1411+07	141.9	1487.	366.2	.1750-01	.2656	.0000
9	5.300	.1476+07	122.8	1322.	323.2	.1750-01	.2472	.0000
10	5.300	.1454+07	118.8	1307.	319.3	.1750-01	.2407	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	WING X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HT	TW DEG. R	STN NO R=0.9	
9	1.0000	.400000	150.00	.3890-01	.4688-01	.5224-01	33.76	1.313	.4125	.554.6
5	1.0000	.500000	151.00	.1078-01	.1283-01	.1419-01	43.91	.4731	.3766	.1048-02
5	1.0000	.600000	152.00	.2482-02	.2963-02	.3263-02	44.13	.1095	.3736	.2889-03
5	1.0000	.700000	153.00	.1837-01	.2188-01	.2418-01	44.00	.8085	.3754	.6850-04
5	1.0000	.900000	154.00	.2409-01	.2868-01	.3171-01	43.94	1.058	.3762	.4926-03

RUN NUMBER	WING	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HT	TW DEG. R	STN NO R=0.9	
5	5	1.0000	.400000	150.00	.3890-01	.4688-01	.5224-01	33.76	1.313	.4125	.554.6

DATE 24 JAN 76

ARC 3.5-178 1H3

ARC 3.5-178 1H3 O+T+S

WING UPPER CREASE

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(REF 02)

## WING UPPER CREASE

WING UPPER CREASE

RN/L = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG.	HO BTU/LBH	RS FT	RHOEL SLUG/FT2SEC	ALPHA DEG.
15	5.300	.4972+07	405.4	1305.	318.9	.1750-01	.8223	.0000
16	5.300	.4953+07	406.3	1310.	320.2	.1750-01	.8223	.0000
17	5.300	.5006+07	405.7	1300.	317.6	.1750-01	.8248	.0000
18	5.300	.5098+07	404.9	1284.	313.4	.1750-01	.8294	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	WING	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HM/HT	HM/HT	TM DEG. R	STN NO R=0.9
18	1.0000	-40000	150.00	.6263-01	.7598-01	.8504-01	.57.47	.3.599	.4.307	.562.6	.9170-03	
15	1.0000	-50000	151.00	.2277-01	.2759-01	.3086-01	.58.81	.1.339	.4.282	.569.1	.3364-03	
15	1.0000	-60000	152.00	.3712-02	.4489-02	.5013-02	.59.49	.2209	.4.218	.560.6	.5475-04	
15	1.0000	-70000	153.00	.2707-01	.3278-01	.3664-01	.59.05	.1.598	.4.259	.566.1	.3997-03	
15	1.0000	-80000	154.00	.3916-01	.4747-01	.5311-01	.58.72	.2.299	.4.290	.570.2	.5787-03	

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S (TRIPS)

WING 'UPPER CREESE

PARAMETRIC DATA

WING UPPER CREESE

RUN/L = 1.500    BETA = .0000    ALPHA = .0000    ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RUN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.
19	5.300	.1500+0.7	122.6	1308.	319.5	.1750-01	.2485	
20	5.300	.1537+0.7	121.3	1279.	312.1	.1750-01	.2491	.0000
21	5.300	.1523+0.7	122.0	1291.	315.3	.1750-01	.2492	.0000
22	5.300	.1470+0.7	122.1	1321.	322.9	.1750-01	.2459	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	WING X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	GREF	Q00T BTU/ FT2SEC	Q00T BTU/ FT2SEC	HTW DEG. R	HTW DEG. R	STN NO
19	1.0000	.40000	150.00	.3664-01	.4430-01	.4947-01	.32.81	.4214	.561.1	.9835-03
22	1.0000	.50000	151.00	.1335-01	.1607-01	.1790-01	.33.79	.1.202	.551.2	.3602-03
22	1.0000	.60000	152.00	.3110-02	.3740-02	.4163-02	.33.96	.4512	.547.4	.8384-04
22	1.0000	.70000	153.00	.1899-01	.2286-01	.2544-01	.33.87	.1056	.4068	.549.5
22	1.0000	.90000	154.00	.2517-01	.3030-01	.3373-01	.33.83	.6433	.4083	.5123-03
							.8515	.4090	.550.4	.6790-03

DATE 24 JAN 76

ARC 3.5-178 1H3

## WING UPPER CREEASE

ARC 3.5-178 1H3

ARC 3.5-178 1H3 O+T+S (TRIPS)

WING UPPER CREESE

PARAMETRIC DATA

RNL = 5.000    BETA = .0000    ALPHA = .0000    ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/LBHR	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
29	5.300	.4977+.07	406.3	1307.	319.2	.1750-.01	.8238	.0000
30	5.300	.5006+.07	406.2	1302.	317.9	.1750-.01	.8254	.0000
31	5.300	.5006+.07	406.4	1302.	318.0	.1750-.01	.8257	.0000
32	5.300	.5039+.07	406.7	1297.	316.8	.1750-.01	.8281	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	WING X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	GREF R=0.85	000T BTU/FT <sup>2</sup> SEC	000T BTU/FT <sup>2</sup> SEC	HW/HT	HW/HT	TW DEG. R	STN NO R=0.9
32	1.0000	.40000	150.00	.5890-.01	.7160-.01	.8024-.01	.57.69	3.798	.4359	.575.6	.8676-.03
29	1.0000	.50000	151.00	.2168.01	.2629-.01	.2942-.01	58.77	1.574	.4298	.571.7	.3203-.03
29	1.0000	.60000	152.00	.3819-.02	.4619-.02	.5160-.02	59.51	.2273	.4228	.562.5	.5630-.04
29	1.0000	.70000	153.00	.2553-.01	.3093-.01	.3459-.01	59.06	1.508	.4270	.568.1	.3769-.03
29	1.0000	.90000	154.00	.3867-.01	.4690-.01	.5248-.01	58.75	2.272	.4300	.572.0	.5713-.03

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POORPAGE 150  
(REF04)

DATE 24 JAN 76

ARC 3.5-178 IH3  
ARC 3.5-178 IH3 O+T+S

## WING UPPER CREESE

RN/L = 5.000      WING UPPER CREESE

PARAMETRIC DATA

RN/L = 5.000      ALPHA = -5.000

BETA = -5.000      ELEVON = .060

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	P0 PCIA	TO DEG. R	HC BTU/LBHM	RS FT	RHOEL SLUG/FT2SEC	ALPHA DEG.
36	5.300	.5031+07	406.1	1297.	316.8	.1750-01	.8269	.0000
37	5.300	.5149+07	401.9	1270.	309.8	.1750-01	.8285	.0000
38	5.300	.5055+07	406.0	1293.	315.8	.1750-01	.8282	.0000
39	5.300	.5045+07	406.2	1295.	316.3	.1750-01	.8279	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	WING X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HM/HF TW DEG. R	HM/HF STN NO R=0.9
39	1.0000	.40000	150.00	.8525-01	.1034	.1158	.58.08	.4309	.568.0
36	1.0000	.50000	151.00	.3226-01	.3928-01	.4408-01	.57.17	.4406	.581.8
36	1.0000	.60000	152.00	.5058-02	.6146-02	.6886-02	.57.77	.4348	.574.2
36	1.0000	.70000	153.00	.3926-01	.4776-01	.5357-01	.57.39	.4385	.579.0
36	1.0000	.90000	154.00	.5165-01	.6315-01	.7038-01	.57.09	.4413	.582.7

DATE 24 JAN 78

ARC 3.5-178 IH3

ARC 3.5-178 IH3 ORBITER

WING UPPER CREESE

PAGE 152

(REF 106)

WING UPPER CREESE

PARAMETRIC DATA

RN/L = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LB.M	RS FT	RHOVEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
40	5.300	.1636+.07	130.4	1287.	314.1	.1750-.01	.2668	.0000
41	5.300	.1582+.07	126.6	1290.	315.0	.1750-.01	.2586	.0000
42	5.300	.1522+.07	122.7	1296.	316.5	.1750-.01	.2500	.0000
43	5.300	.1516+.07	123.1	1302.	318.0	.1750-.01	.2500	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	WING X/L	T/C NO	H/HREF R=1.0	H/HREF R=.9	QREF BTU/FT <sup>2</sup> SEC	QDOT BTU/FT <sup>2</sup> SEC	HW/HT	HW/HT	TW DEG. R	STN NO R=.9	
40	1.0000	.400000	150.00	.3266-.01	.3960-.01	.4431-.01	32.76	1.070	.4294	.562.2	.8433-03
43	1.0000	.500000	151.00	.9866-.02	.1193-.01	.1332-.01	32.73	.3229	.4210	.557.9	.2635-03
43	1.0000	.600000	152.00	.3012-.02	.3640-.02	.4063-.02	32.78	.9873-.01	.4202	.556.8	.8044-04
43	1.0000	.700000	153.00	.1293-.01	.1563-.01	.1744-.01	32.75	.4234	.4206	.557.4	.3453-03
43	1.0000	.900000	154.00	.3079-.01	.3723-.01	.4158-.01	32.69	1.006	.4217	.558.9	.8227-03

DATE 24 JAN 76

ARC 3.5-178 IH3

PAGE 153

(REF ID: F071)

## WING UPPER CREASE

ARC 3.5-178 IH3

ARC 3.5-178 IH3 ORBITER

## WING UPPER CREASE

PARAMETRIC DATA

RN/L = 5.000    BETA = .0000    ALPHA = .0000    ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	P0 PSIA	TO DEG.	HO BTU/LBM	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
44	5.300	.5112+07	406.4	1285.	313.6	.1750-01	.8322	.0000
45	5.300	.5036+07	406.2	1297.	316.7	.1750-01	.8273	.0000
46	5.300	.5003+07	405.9	1301.	317.9	.1750-01	.8248	.0000
47	5.300	.5392+07	404.9	1240.	302.0	.1750-01	.8469	.0000

## \*\*\*TL31 DATA\*\*\*

RUN NUMBER	WING X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HW/HT	TH DEG. R	STN NO R=0.9
47	1.0000	.40000	150.00	.4473-01	.6158-01	53.16	.4518	568.8	.6447-03
44	1.0000	.50000	151.00	.1610-01	.2190-01	57.34	.4332	566.3	.2356-03
44	1.0000	.60000	152.00	.4950-02	.6706-02	57.38	.4271	558.3	.7228-04
44	1.0000	.70000	153.00	.2678-01	.3626-01	57.61	.4306	562.9	.3915-03
44	1.0000	.90000	154.00	.4576-01	.5560-01	.6229-01	.4346	568.1	.6698-03

DATE 24 JAN 76

ARC 3.5-178 1H3

ARC 3.5-178 1H3 ORBITER (TRIPPING) WING UPPER CREESE

PAGE 154

(REF ID: F08)

## WING UPPER CREESE

PARAMETRIC DATA

RN/L = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	H/C BTU/LBHM	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
48	5.300	.1533+07	123.1	1293.	315.7	.1750-01	.2511	.0000
49	5.300	.1526+07	122.7	1294.	315.9	.1750-01	.2502	.0000
50	5.300	.1431+07	118.7	1320.	322.6	.1750-01	.2392	.0000
51	5.300	.1495+07	121.6	1304.	318.4	.1750-01	.2469	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	WING X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QDOT BTU/FT2SEC	MM/MM FT2SEC	W DEG. R	STN NO R=0.9
48	1.0000	.400000	150.00	.3092-01	.3746-01	.4189-01	.3212	.4271	.561.9
51	1.0000	.500000	151.00	.1071-01	.1291-01	.1439-01	.33.06	.3541	.2873-03
51	1.0000	.600000	152.00	.2153-02	.2593-02	.2889-02	.33.18	.7144-01	.5773-04
51	1.0000	.700000	153.00	.1553-01	.1872-01	.2085-01	.33.12	.5145	.4166-03
51	1.0000	.900000	154.00	.2713-01	.3270-01	.3644-01	.33.05	.8968	.548.1

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 ORBITER (TRIPS) WING UPPER CREASE

## WING UPPER CREASE

RN/L = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\* TEST CONDITIONS \*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
52	5.300	.5053+07	405.5	1292.	315.6	.1750-01	.8274	.0000
53	5.300	.5027+07	406.4	1299.	317.2	.1750-01	.8269	.0000
54	5.300	.5137+07	405.1	1278.	312.0	.1750-01	.8320	.0000
55	5.300	.4987+07	402.9	1298.	317.0	.1750-01	.8201	.0000

## \*\*\* TEST DATA \*\*\*

RUN NUMBER	WING X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QDOT BTU/ FT2SEC	QREF BTU/ FT2SEC	HW/HT	HW/HT DEG. R	STN NO R=0.9
55	1.0000	.40000	150.00	.4380-01	.5312-01	.5945-01	2.542	.4304	.568.6
52	1.0000	.50000	151.00	.1867-01	.2262-01	.2529-01	1.089	.4270	.6472-03
52	1.0000	.60000	152.00	.3729-02	.4506-02	.5029-02	58.30	.4198	.2740-03
52	1.0000	.70000	153.00	.2455-01	.2971-01	.3320-01	59.05	.4242	.5650-04
52	1.0000	.90000	154.00	.3510-01	.4254-01	.4758-01	58.59	.4280	.3599-03

DATE 24 JAN 76

ARC 3.5-178 1H3

## WING UPPER CREASE

ARC 3.5-178 1H3 0+T+S

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(RE1719)

RNL = 5.000    BETA = .0000    ALPHA = -5.000    ELEVON = .0000

## WING UPPER CREASE

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RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/LBH	RS FT	SHOVEL SLUG/FT SEC	ALPHA DEG.
70	5.300	.9906+07	407.3	1320.	322.9	1750-01	.8205	-5.000
71	5.300	.5001+07	406.8	1303.	318.4	1750-01	.8258	-5.000
72	5.300	.4987+07	403.9	1300.	317.5	1750-01	.8213	-5.000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	WING X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	HREF BTU/FT SEC	QDOT BTU/FT SEC	MM/MM FT SEC	MM/MM DEG. R	MM/MM DEG. R	STN NO R=0.9
70	1.0000	.40000	150.00	.6623-01	.7971-01	.8873-01	61.83	4.095	.4085	.9778-03
72	1.0000	.50000	151.00	.3105-01	.3750-01	.4183-01	59.54	1.849	.4177	.4570-03
72	1.0r-1	.60000	152.00	.1035-01	.1246-01	.1388-01	60.29	.6240	.4106	.543.3
72	1.0 >0	.70000	153.00	.3865-01	.4661-01	.5197-01	52.87	2.314	.4146	.5683-03
72	1.0000	.90000	154.00	.6103-01	.7370-01	.8223-01	59.19	3.631	.4182	.553.3

## \*\*\*TEST DATA\*\*\*

DATE 24 JAN 76

ARC 3.5-178 1H3

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(REF 20)

## WING UPPER CREASE

ARC 3.5-178 1H3

D+T+S

WING UPPER CREASE

RN/L = 5.000

BETA = .0000

ALPHA = -3.000

ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HD BTU/ LBM	RS FT	RHOVEL SLUG/ FT <sup>2</sup> SEC	ALPHA DEG.
74	5.300	.5051+07	406.7	1295.	316.3	.1750-01	.8289	-3.000
76	5.300	.5017+07	406.9	1301.	317.8	.1750-01	.8270	-3.000
79	5.300	.4970+07	406.9	1309.	319.8	.1750-01	.8241	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	WING X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF P=0.95	QREF BTU/ FT <sup>2</sup> SEC	ODOT BTU/ FT <sup>2</sup> SEC	HW/HF	TW DEG. R	STN NO R=0.9
74	.0000	.40000	150.00	.6325-01	.7646-01	.8529-01	.59.13	.4214	555.6	.9264-03
76	1.0000	.50000	151.00	.2531-01	.3062-01	.3421-01	.59.22	1.499	.4235	.560.9
76	1.0000	.60000	152.00	.4973-02	.6003-02	.6696-02	.59.89	.2979	.4171	.552.4
76	1.0000	.70000	153.00	.3117-01	.3768-01	.4208-01	.59.45	1.653	.4212	.557.9
76	1.0000	.90000	154.00	.4347-01	.5261-01	.5678-01	.59.14	2.571	.4242	.561.8

DATE 24 JAN 76

ARC 3.5-178 IH3

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WING BOTTOM  
WING BOTTOM

ARC 3.5-178 IH3 O+T+S

WING BOTTOM

(REIG01)

RN/L = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
3	5.300	.1491+07	165.6	.1581.	390.9	.1750-01	.2979	.0000
5	5.300	.1411+07	141.9	.1487.	366.2	.1750-01	.2656	.0000
9	5.300	.1476+07	122.8	.1322.	323.2	.1750-01	.2472	.0000
10	5.300	.1454+07	118.8	.1307.	319.3	.1750-01	.2407	.0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
3	5.300	.1491+07	165.6	.1581.	390.9	.1750-01	.2979	.0000
5	5.300	.1411+07	141.9	.1487.	366.2	.1750-01	.2656	.0000
9	5.300	.1476+07	122.8	.1322.	323.2	.1750-01	.2472	.0000
10	5.300	.1454+07	118.8	.1307.	319.3	.1750-01	.2407	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	2Y/B	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT <sup>2</sup> SEC	QDOT BTU/FT <sup>2</sup> SEC	HW/HIT	TW DEG. R	STN NO R=0.9
9	.25000		155.00	.8937-01	.1078	.1201	.33.65	.4143	.558.0	.2409-02
9	.25000		156.00	.5532-01	.6676-01	.7441-01	.33.70	.4135	.556.9	.1492-02
9	.25000		157.00	.2799-01	.3374-01	.3760-01	.33.71	.4132	.556.6	.7542-03
9	.25000		158.00	.3467-01	.4179-01	.4657-01	.33.74	.4128	.556.1	.9341-03
9	.25000		159.00	.2910-01	.3506-01	.3907-01	.33.78	.4122	.555.2	.7838-03
3	.25000		160.00	.1459	.1721	.1891	.53.59	.7821	.3425	.3744-02
3	.25000		161.00	.7560	.7526-02	.8974-02	.53.66	.4038	.3418	.558.9
3	.25000		162.00	.9060	.1365	.1612	.1772	.53.21	.7263	.1931-03
3	.25000		163.00	.25000-01	.4722-01	.5575-01	.6129-01	.53.25	.2.514	.3506-02
3	.25000		164.00	.10000+00	.2340-01	.2762-01	.3036-01	.53.37	.3466	.1213-02
3	.25000		165.00	.20000	.166.00	.1963-01	.2316-01	.53.49	.3452	.6008-03
3	.25000		166.00	.30200	.167.00	.1963-01	.2316-01	.0.0	.3438	.5038-03
3	.25000		167.00	.55900	.168.00	.6542-01	.7116-01	.53.57	.3.505	.1678-02
3	.25000		168.00	.70000	.169.00	.9906-01	.1168	.53.56	.3428	.558.7
3	.25000		169.00	.90000	.170.00	.2596-01	.3050-01	.53.57	.3.385	.3428
3	.25000		170.00	.172.00	.1604	.1896-	.2085	.53.00	.8.501	.558.5
3	.25000		171.00	.173.00	.2694-01	.3180-01	.3495-01	.53.32	.1.436	.6635-03
3	.25000		172.00	.30000	.174.00	.2122-01	.2504-01	.53.45	.1.134	.4122-02
3	.25000		173.00	.49700	.175.00	.1873-01	.2169-01	.2394-01	.9821	.6916-03
3	.25000		174.00	.90000	.176.00	.4855-01	.5228-01	.6294-01	.2.596	.5446-03
3	.25000		175.00	.177.00	.1604	.5879-01	.6937-01	.7622-01	.3.144	.4719-03
3	.25000		176.00	.91000	.178.00	.2694-01	.3180-01	.6565-01	.2.710	.1.356-02
3	.25000		177.00	.10000+00	.174.00	.5277-01	.6233-01	.6855-01	.2.803	.567.3
3	.25000		178.00	.20000	.180.00	.3159-01	.3729-01	.4093-01	.53.32	.6111-03
3	.25000		179.00	.30000	.181.00	.1846-01	.2178-01	.2393-01	.9867	.4737-03

DATE 24 JAN 76

ARC 3.5-178 IH3

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## ARC 3.5-178 IH3

(REF001)

RUN NUMBER	2Y/B	X/C	T/C NO	H/HREF R=1 0	H/HREF R=0.9	H/HREF R=0.85	WING BOTTOM	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HT	TW DEG. R	STN NO R=0.9
3	.60000	.42800	182.00	.1627-01	.1919-01	.2109-01	.53.46	.8696	.3441	.560.6	.4175-03	
3	.60000	.60000	183.00	.3225-01	.3805-01	.4181-01	.53.46	.1.724	.3442	.560.7	.8277-03	
3	.60000	.70000	184.00	.4372-01	.5158-01	.5668-01	.53.49	.2.339	.3438	.560.1	.1.22-02	
5	.60000	.80000	185.00	.3493-01	.3493-01	.3861-01	.44.00	.2.291	.3753	.572.8	.7865-03	
5	.60000	.85000	186.00	.3572-01	.4017-01	.4441-01	.43.91	.1.481	.3766	.574.8	.9043-03	
3	.50000	.90000	187.00	.3831-01	.4522-01	.4968-01	.53.45	.2.048	.3442	.560.7	.9824-03	
3	.75000	.25000-01	189.00	.2270	.2661	.2949	.53.06	.12.04	.3488	.568.2	.5831-02	
3	.75000	.10000+00	190.00	.7059-01	.8389-01	.9220-01	.53.13	.3.772	.3479	.566.9	.1824-02	
3	.75000	.30300	191.00	.3742-01	.4414-01	.4952-01	.53.35	.1.995	.3454	.562.7	.9601-03	
3	.75000	.50000	192.00	.3253-01	.3895-01	.4241-01	.53.35	.1.744	.3454	.562.7	.8394-03	
3	.75000	.70000	193.00	.1114-01	.1314-01	.1444-01	.53.48	.5.958	.3439	.560.3	.2859-03	
3	.75000	.85000	194.00	.7501-32	.894-02	.9885-02	.43.92	.3.297	.3764	.574.5	.2013-03	
3	.75000	.95000	195.00	.1167-01	.1391-01	.1538-01	.43.83	.51.16	.3777	.576.4	.3130-03	
3	.75000	.90000	196.00	.1670-01	.1971-01	.2166-01	.53.42	.8924	.3445	.561.3	.4287-03	
3	.85000	.10000+00	197.00	.9337-01	.1103	.1213	.53.05	.4.954	.3489	.568.4	.2399-02	
3	.85000	.30000	198.00	.4426-01	.5227-01	.5747-01	.53.17	.2.353	.3476	.566.2	.1.137-02	
3	.85000	.50000	199.00	.4101-01	.4643-01	.5325-01	.53.17	.2.160	.3476	.566.2	.1053-02	
3	.90000	.30000	201.00	.5405-01	.6389-01	.7028-01	.52.94	.2.862	.3502	.570.6	.1389-02	
3	.90000	.60000	202.00	.2149-01	.2537-01	.2799-01	.53.22	.1.143	.3470	.565.3	.5518-03	
3	.95000	.50000-01	203.00	.1139	.1347	.1482	.52.71	.6.002	.3529	.574.9	.2928-02	
3	.95000	.10000+00	204.00	.1132	.1304	.1435	.52.67	.5.804	.3534	.575.8	.2834-02	
3	.95000	.20700	205.00	.5991-01	.7088-01	.7802-01	.52.64	.3.154	.3537	.576.2	.1541-02	
3	.95000	.50000	206.00	.4103-01	.4952-01	.5339-01	.52.78	.2.166	.3521	.573.6	.1055-02	
3	.95000	.70000	207.00	.1831-01	.2163-01	.2378-01	.53.11	.9724	.3482	.567.3	.4703-03	
3	.95000	.90000	208.00	.1752-01	.2072-01	.2280-01	.52.77	.9245	.3522	.573.9	.4504-03	
3	.95600	.00000	209.00	.1051	.1244	.1369	.52.50	.5.516	.3554	.579.0	.2703-02	
3	.99300	.00000	210.00	.2679-01	.3167-01	.3485-01	.52.82	.1.415	.3516	.572.8	.6886-03	

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ARC 3.5-178 IH3

## WING BOTTOM

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(REF ID: G2)

ARC 3.5-178 IH3

IH3 O+T+S

WING BOTTOM

RN/L = 5.000    BETA = .0000    ALPHA = .0000    ELEVON = .0000

## PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	ROLL SLUG/FT SEC	ALPHA DEG.
15	5.300	.4972+07	405.4	1305.	318.9	.1750-01	.8223	.0000
16	5.300	.4953+07	406.3	1310.	320.2	.1750-01	.8223	.0000
17	5.300	.5006+07	405.7	1300.	317.6	.1750-01	.8248	.0000
18	5.300	.5098+07	404.9	1284.	313.4	.1750-01	.8294	.0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QDOT BTU/FT SEC	QDOT BTU/FT SEC	QDOT BTU/FT SEC
18	.25000	.25000-01	155.00	.8274-01	.1005	.1125	.57.17	.4.730
18	.25000	.15300	156.00	.8481-01	.1029	.1152	.57.39	.4.868
18	.25000	.29900	157.00	.5532-01	.6159-01	.6191-01	.57.48	.2.621
18	.25000	.44400	158.00	.5078-01	.6159-01	.6893-01	.57.51	.2.921
18	.25000	.59000	159.00	.4296-01	.5208-01	.5887-01	.57.62	.4.475
17	.25000	.73600	160.00	.1532	.1853	.2069	.59.21	.9.069
17	.25000	.90000	161.00	.11159-01	.1401-01	.1565-01	.59.19	.6858
17	.25000	.25000-01	164.00	.1455	.1766	.1978	.58.14	.8.460
17	.40000	.40000	155.00	.5541-01	.6726-01	.7532-01	.58.13	.3.221
17	.40000	.20000	166.00	.5182-01	.6294-01	.7031-01	.58.43	.1.028
17	.40000	.30200	167.00	.5851-01	.7084-01	.7919-01	.58.88	.3.445
17	.40000	.55900	168.00	.6784-01	.8207-01	.9167-01	.59.14	.4.013
17	.40000	.76000	169.00	.1066	.1291	.1442	.58.95	.6.285
17	.40000	.90000	170.00	.3133-01	.3792-01	.4238-01	.58.95	.1.847
17	.50000	.25000-01	172.00	.1824	.2221	.2492	.57.36	.10.46
17	.50000	.17700	173.00	.2811-01	.3417-01	.3620-01	.58.20	.1.636
17	.50000	.30000	174.00	.4294-01	.5203-01	.5818-01	.58.70	.2.521
17	.50000	.48700	175.00	.7529-01	.9118-01	.1019	.58.83	.4.429
17	.50000	.60000	176.00	.7573-01	.9175-01	.1026	.58.70	.4.445
17	.50000	.70000	177.00	.7689-01	.9315-01	.1042	.58.70	.4.513
17	.50000	.90000	178.00	.6611-01	.8010-01	.8957-01	.58.69	.3.880
17	.60000	.10000	174.00	.5031-01	.6119-01	.6860-01	.57.62	.2.899
17	.60000	.20000	180.00	.3635-01	.4412-01	.4940-01	.58.18	.4.322
17	.60000	.30000	181.00	.4933-01	.5977-01	.6683-01	.58.71	.2.897

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

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ARC 3.5-178 IH3

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(IRE1G021)

RUN NUMBER	2Y/B	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	ARC 3.5-178 IH3 Q+T+S	WING BOTTOM	H/HREF R=0.85	OREF BTU/ FT2SEC	OOT BTU/ FT2SEC	H/HF	TH DEG. R	STN NO R=0.9
17	.60000	.42800	182.00	.7596-01	.9188-01	.1027	.58.78	4.455	.4264	.564.5	.1117-02		
17	.60000	.60000	183.00	.6196-01	.7504-01	.8389-01	.58.83	3.645	.4260	.563.9	.924-03		
17	.60000	.70000	184.00	.6704-01	.8116-01	.9072-01	.59.89	3.948	.4254	.563.1	.9869-03		
15	.60000	.80000	185.00	.3959-01	.4794-01	.5359-01	.59.98	2.339	.4257	.565.8	.5845-03		
15	.60000	.85000	186.00	.4791-01	.5808-01	.5497-01	.59.75	2.815	.4286	.569.8	.7080-03		
17	.60000	.90000	187.00	.4642-01	.5624-01	.6289-01	.59.68	2.724	.4274	.565.8	.6839-03		
17	.75000	.25000-01	189.00	.2123	.2580	.2892	.57.72	12.26	.4360	.577.1	.3135-02		
17	.75000	.10000+00	190.00	.6506-01	.7905-01	.8856-01	.57.90	3.767	.4347	.575.5	.960-03		
17	.75000	.30300	191.00	.6164-01	.7477-01	.8368-01	.58.37	3.598	.4304	.569.7	.9089-03		
17	.75000	.50000	192.00	.9246-01	.1118	.1251	.58.41	5.383	.4300	.569.2	.359-02		
17	.75000	.70000	193.00	.3966-01	.4805-01	.5372-01	.58.75	2.330	.4267	.564.9	.5842-03		
15	.75000	.80000	194.00	.3032-01	.3675-01	.4111-01	.58.76	1.782	.4287	.569.7			
15	.75000	.85000	195.00	.3470-01	.4210-01	.4713-01	.58.48	2.029	.4313	.573.7	.5132-03		
17	.75000	.90000	196.00	.3795-01	.4603-01	.5150-01	.58.46	2.219	.4295	.568.6	.5596-03		
17	.85000	.10000+00	197.00	.8935-01	.1037	.1219	.57.47	5.135	.4389	.581.0	.1321-02		
17	.85000	.30000	198.00	.7247-01	.8775-01	.9837-01	.57.69	4.163	.4368	.578.2	.1063-02		
17	.85000	.50000	199.00	.1072	.1303	.1461	.57.70	6.185	.4366	.578.0	.1583-02		
17	.90000	.30000	201.00	.6094-01	.7428-01	.8341-01	.57.00	3.474	.4433	.586.8	.9023-03		
17	.90000	.60000	200.00	.4820-01	.5870-01	.6578-01	.57.82	2.793	.4355	.576.6	.734-03		
17	.95000	.50000-01	203.00	.1076	.1313	.1476	.56.60	6.089	.4471	.591.9	.1595-02		
17	.95000	.10000+00	204.00	.1039	.1267	.1424	.56.81	5.901	.4451	.589.3	.1539-02		
17	.95000	.30000	205.00	.7463-01	.9111-01	.1024	.56.58	4.222	.4473	.592.1	.1107-02		
17	.95000	.50000	206.00	.7066-01	.8618-01	.9680-01	.56.87	4.015	.4445	.568.4	.1047-02		
17	.95000	.70000	207.00	.3337-01	.3817-01	.4281-01	.57.50	1.804	.4385	.580.5	.4638-03		
17	.95000	.90000	208.00	.3062-01	.3740-01	.4205-01	.56.47	1.729	.4483	.593.5	.4541-03		
17	.96600	.00000	209.00	.1734	.2123	.2391	.55.92	9.698	.4536	.600.5	.2577-02		
17	.99300	.00000	210.00	.2423-01	.2957-01	.3324-01	.56.64	1.372	.4467	.591.4	.3591-03		

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## WING BOTTOM

ARC 3.5-178 IH3 O+T+S (TRIPS)

(RE1603)

RUN NUMBER	MACH	RNL PER FT	TEST CONDITIONS...				PARAMETRIC DATA		
			PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOEL SLUG/FT2SEC	ALPHA DEG.	ELEVON = .0000
19	5.300	.1500+07	122.6	1308.	319.5	.1750-01	.2485	.0000	
20	5.300	.1537+07	121.3	1275.	312.1	.1750-01	.2491	.0000	
21	5.300	.1523+07	122.0	1291.	315.3	.1750-01	.2492	.0000	
22	5.300	.1470+07	122.1	1321.	322.9	.1750-01	.2459	.0000	

RUN NUMBER	2Y/B	X/C	T/C NO	TEST DATA...				TEST DATA...		
				H/HREF R=1.0	H/HREF R=0.9	POOT BTU/FT2SEC	QDIT BTU/FT2SEC	HWT	HWT	TW DEG. R
19	.25000	.250000-01	155.00	.7919-01	.9582-01	.1071	32.68	.4237	.564.2	.2127-02
19	.25000	.153000	156.00	.5868-01	.7097-01	.7926-01	32.75	.4224	.562.5	.1575-02
19	.25000	.299900	157.00	.2696-01	.3260-01	.3641-01	32.77	.4221	.562.1	.7238-03
19	.25000	.44400	158.00	.3649-01	.4412-01	.4926-01	32.80	.4197	.561.3	.9739-03
19	.25000	.590000	159.30	.2963-01	.3581-01	.3998-01	32.87	.4205	.559.9	.7950-03
20	.25000	.73660	160.00	.1367	.1654	.1849	31.68	.4242	.551.8	.3640-02
20	.25000	.900000	161.00	.7564-02	.9158-02	.1024-01	31.62	.4253	.553.2	.2014-03
20	.40000	.250000-01	164.00	.1365	.1656	.1853	31.34	.4277	.4304	.3641-02
20	.40000	.100000+00	165.00	.4559-01	.5531-C	.6191-01	31.31	.4277	.4308	.1216-02
20	.40000	.200000	166.00	.2392-01	.2901-01	.3245-01	31.39	.7511	.4293	.6379-03
20	.40000	.300000	167.00	.1956-01	.2417-01	.2703-01	31.53	.6292	.4269	.5317-03
20	.40000	.55900	168.00	.6466-01	.7828-01	.8750-01	31.62	2.045	.4253	.553.2
20	.40000	.70900	169.00	.9395-01	.1138	.1272	31.57	2.066	.4262	.554.4
20	.40000	.900000	170.00	.2488-01	.3014-01	.3371-C	31.51	.4274	.555.9	.6630-02
20	.50000	.250000-01	172.00	.1513	.1838	.2059	31.08	.4702	.4348	.565.6
20	.50000	.17000	173.00	.2582-01	.3132-01	.3506-01	31.30	.8081	.4309	.560.5
20	.50000	.30000	174.03	.1935-01	.2345-01	.2622-01	31.46	.6087	.4261	.556.9
20	.50000	.48000	175.03	.1830-01	.2217-01	.2480-01	31.47	.5758	.4280	.556.7
20	.50000	.60000	176.00	.4627-01	.5609-01	.6275-01	31.42	1.454	.4289	.557.9
20	.50000	.70000	177.00	.5933-01	.7192-01	.8046-01	31.42	1.864	.4289	.557.9
20	.50000	.90000	178.00	.4552-01	.5519-01	.6175-01	31.40	1.429	.4293	.558.4
20	.60000	.10000+00	179.00	.4914-01	.5968-01	.6686-01	31.33	1.530	.4340	.564.5
20	.60000	.20000	180.00	.3021-01	.3665-01	.4103-01	31.29	.5452	.4312	.8059-03
20	.60000	.30000	181.00	.1703-01	.2064-01	.2306-01	31.44	.5353	.4285	.4539-03

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RUN NUMBER	2Y/B	X/C	T/C NO	ARC 3.5-178 IH3 0+1+S (TRIPS)	WING BOTTOM	DET	ADOT BTU/FT2SEC	TH DEG. R	STN NO R=0.9
20	.60000	.42800	182.00	.1439-01 R=1.0	.1744-01 R=0.9	.1951-01 R=0.85	.31.45 BTU/FT2SEC	.4284 BTU/FT2SEC	.3835-03 BTU/FT2SEC
20	.60000	.60000	183.00	.3794-01 R=1.0	.4600-01 R=0.9	.5146-01 R=0.85	.1.192 BTU/FT2SEC	.4290 BTU/FT2SEC	.558.0 BTU/FT2SEC
20	.60000	.70000	184.00	.4484-01 R=1.0	.5436-01 R=0.9	.6082-01 R=0.85	.31.42 BTU/FT2SEC	.4289 BTU/FT2SEC	.1195-02 BTU/FT2SEC
22	.60200	.80000	185.00	.2844-01 R=1.0	.3422-01 R=0.9	.3809-01 R=0.85	.33.99 BTU/FT2SEC	.9636 BTU/FT2SEC	.549.1 BTU/FT2SEC
22	.60000	.85000	186.00	.3275-01 R=1.0	.3942-01 R=0.9	.4369-01 R=0.85	.33.83 BTU/FT2SEC	.1.108 BTU/FT2SEC	.8834-03 BTU/FT2SEC
20	.60000	.90000	187.00	.3559-01 R=1.0	.4316-01 R=0.9	.4831-01 R=0.85	.31.34 BTU/FT2SEC	.1.115 BTU/FT2SEC	.9432-03 BTU/FT2SEC
20	.60000	.75000	189.00	.2178 .25000-01	.2644 .10000+00	.2961 .8151-01	.31.19 BTU/FT2SEC	.6.792 BTU/FT2SEC	.4330 BTU/FT2SEC
20	.75000	.10000	190.00	.6713-01 R=1.0	.8151-01 R=0.9	.9128-01 R=0.85	.31.19 BTU/FT2SEC	.2.094 BTU/FT2SEC	.1792-02 BTU/FT2SEC
20	.75000	.30300	191.00	.3573-01 R=1.0	.4335-01 R=0.9	.4852-01 R=0.85	.31.29 BTU/FT2SEC	.1.118 BTU/FT2SEC	.9532-03 BTU/FT2SEC
20	.75000	.50000	192.00	.3342-01 R=1.0	.4055-01 R=0.9	.4539-01 R=0.85	.31.30 BTU/FT2SEC	.1.046 BTU/FT2SEC	.8917-03 BTU/FT2SEC
20	.75000	.75000	193.00	.1275-01 R=1.0	.1546-01 R=0.9	.1730-01 R=0.85	.31.37 BTU/FT2SEC	.3.999 BTU/FT2SEC	.4298 BTU/FT2SEC
20	.75000	.70000	194.00	.7990-02 R=1.0	.9630-02 R=0.9	.1072-01 R=0.85	.33.80 BTU/FT2SEC	.2703 BTU/FT2SEC	.4096 BTU/FT2SEC
22	.75000	.80000	195.00	.1343-01 R=1.0	.1617-01 R=0.9	.1601-01 R=0.85	.33.74 BTU/FT2SEC	.4530 BTU/FT2SEC	.3623-03 BTU/FT2SEC
22	.75000	.85000	195.00	.1477-01 R=1.0	.1792-01 R=0.9	.2006-01 R=0.85	.31.28 BTU/FT2SEC	.4619 BTU/FT2SEC	.561.0 BTU/FT2SEC
20	.85000	.100000	197.00	.8618-01 R=1.0	.1047 R=0.9	.1174 R=0.85	.31.05 BTU/FT2SEC	.2.676 BTU/FT2SEC	.2303-02 BTU/FT2SEC
20	.85000	.30000	198.00	.4380-01 R=1.0	.5323-01 R=0.9	.5964-01 R=0.85	.31.06 BTU/FT2SEC	.1.360 BTU/FT2SEC	.566.2 BTU/FT2SEC
20	.85000	.50000	199.00	.4481-01 R=1.0	.5445-01 R=0.9	.6101-01 R=0.85	.31.06 BTU/FT2SEC	.1.392 BTU/FT2SEC	.4353 BTU/FT2SEC
20	.85000	.30000	201.00	.4930-01 R=1.0	.5998-01 R=0.9	.6726-01 R=0.85	.30.88 BTU/FT2SEC	.1.522 BTU/FT2SEC	.4385 BTU/FT2SEC
20	.90000	.60000	200.00	.2023-01 R=1.0	.2457-01 R=0.9	.2753-01 R=0.85	.31.10 BTU/FT2SEC	.6290 BTU/FT2SEC	.4346 BTU/FT2SEC
20	.95000	.50000	203.00	.1134 R=1.0	.1381 R=0.9	.1549 R=0.85	.30.77 BTU/FT2SEC	.3.489 BTU/FT2SEC	.4403 BTU/FT2SEC
20	.95000	.100000	204.00	.1117 R=1.0	.1361 R=0.9	.1527 R=0.85	.30.73 BTU/FT2SEC	.3.433 BTU/FT2SEC	.4411 BTU/FT2SEC
20	.95000	.205.00	205.00	.5788-01 R=1.0	.7051-01 R=0.9	.7915-01 R=0.85	.30.69 BTU/FT2SEC	.1.776 BTU/FT2SEC	.4418 BTU/FT2SEC
20	.95000	.300.00	206.00	.3910-01 R=1.0	.4768-01 R=0.9	.5349-01 R=0.85	.30.80 BTU/FT2SEC	.1.206 BTU/FT2SEC	.4399 BTU/FT2SEC
20	.95000	.700.00	207.00	.1355-01 R=1.0	.2011-01 R=0.9	.2254-01 R=0.85	.31.04 BTU/FT2SEC	.5135 BTU/FT2SEC	.4421-03 BTU/FT2SEC
20	.95000	.900.00	208.00	.1550-01 R=1.0	.1887-01 R=0.9	.2117-01 R=0.85	.30.76 BTU/FT2SEC	.4766 BTU/FT2SEC	.573.1 BTU/FT2SEC
20	.95000	.209.00	209.00	.110. R=1.0	.1346 R=0.9	.1511 R=0.85	.30.57 BTU/FT2SEC	.3.374 BTU/FT2SEC	.4439 BTU/FT2SEC
20	.95000	.210.00	210.00	.2503-01 R=1.0	.3045-01 R=0.9	.34.6-01 R=0.85	.30.85 BTU/FT2SEC	.7722 BTU/FT2SEC	.570.9 BTU/FT2SEC
20	.95000	.93300	.000000	.000000 R=1.0	.000000 R=0.9	.000000 R=0.85	.000000 BTU/FT2SEC	.4389 BTU/FT2SEC	.6694-03 BTU/FT2SEC

(IRE1G03)

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## WING BOTTOM

ARC 3.5-178 IH3 O+T+S (TRIPS)

WING BOTTOM

(REF ID: A4)

RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DEG. R	HD BTU/LB M	RS FT	RHOVEL SLUG/FT SEC	ALPHA DEG.
29	5.300	.4977-07	406.3	1.07.	319.2	.1750-01	.8238	.0000
30	5.300	.5036-07	405.2	1302.	317.9	.1750-01	.8254	.0000
31	5.300	.5226-07	405.4	1302.	318.0	.1750-01	.8257	.0000
32	5.300	.5339-07	405.7	1297.	316.8	.1750-01	.8281	.0000

## \*\*\*TEST CONDITIONS\*\*\*

PARAMETRIC DATA

RNL = 5.000

BETA = .0000

ALPHA = .0000

ELEVN = .0000

POL NUMBER	2Y/B	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	GREF R=0.85	Q00T BTU/F12SEC	W/HHT	TW DEG. R	STN NO R=0.9
32	.25000	.25000-01	155.00	.7753-01	.9443-01	.1060	.57.13	.4413	.582.6	.1144-02
32	.25000	.15300	156.00	.8406-01	.1022	.1146	.57.51	.4376	.577.6	.1239-02
32	.25000	.29600	157.00	.4352-01	.5290-01	.5929-01	.57.67	.5361	.575.8	.6410-03
32	.25000	.44400	158.00	.4773-01	.5799-01	.6498-01	.57.80	.4349	.574.2	.7028-03
32	.25000	.59000	159.00	.3940-01	.4784-01	.5357-01	.58.02	.4328	.571.5	.5798-03
31	.25000	.73500	160.00	.1487	.1803	.2017	.58.55	.4298	.569.6	.2191-02
31	.25200	.90000	161.00	.1014-01	.1230-01	.1377-01	.58.40	.4298	.571.5	.1495-03
31	.40000	.25000-01	154.30	.1402	.1709	.1917	.57.28	.4418	.585.5	.2074-02
31	.40000	.10000-00	165.00	.5029-01	.6128-01	.6959-01	.57.19	.4425	.586.6	.7442-03
31	.40000	.20000	156.00	.5021-01	.6112-01	.6653-01	.57.46	.4401	.583.2	.7425-03
31	.40000	.30200	157.00	.5662-01	.6879-01	.7776-01	.57.99	.4351	.576.7	.8359-03
31	.40000	.55900	168.00	.6502-01	.7890-01	.8832-01	.58.38	.4314	.571.8	.9588-03
31	.40000	.70000	169.00	.1021	.1240	.1389	.58.14	.4336	.574.7	.1507-02
31	.40000	.90000	170.00	.2921-01	.3551-01	.3980-01	.57.87	.4362	.578.1	.4314-03
31	.50000	.25000-01	172.00	.1783	.2181	.2454	.56.28	.4512	.598.0	.2647-02
31	.50000	.17700	173.00	.2727-01	.3324-01	.3733-01	.57.10	.4435	.587.8	.4037-03
31	.50000	.30000	174.00	.3954-01	.4809-01	.5392-01	.57.72	.4376	.580.0	.5842-03
31	.50000	.46200	175.00	.7331-01	.8912-01	.9988-01	.57.88	.4243	.578.0	.1083-02
31	.50000	.60000	176.00	.7645-01	.9299-01	.1043	.57.72	.413	.4376	.580.0
31	.50000	.70000	177.00	.6819-01	.8295-01	.9301-01	.57.70	.4379	.580.3	.1008-02
31	.50000	.90000	178.00	.7560-01	.8482-01	.57.50	.572	.4397	.582.7	.9184-03
31	.60000	.10000-00	174.00	.6131-01	.6930-01	.56.43	.2.844	.4499	.596.2	.7479-03
31	.60000	.20000	180.00	.3659-01	.4462-01	.5012-01	.56.99	.4445	.589.1	.5419-03
31	.60000	.30000	181.00	.4835-01	.5882-01	.6596-01	.57.67	.4381	.580.6	.7146-03

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ARC 3.5-178 IH3

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(RE1004)

RUN NUMBER	2Y/R	X/C	T/C NO	ARC 3.5-178 IH3 0+T+S (TRIPS)			WING BOTTOM	MM/HIT	TH DEG. R	STN NO R=0.9
				H/HREF P=1.0	H/HREF R=0.9	H/HREF R=0.85				
31	.50000	.42800	182.00	.7414-01	.9017-01	.1011	57.70	.4278	.1378	.1096-02
31	.60050	.60000	183.00	.5362-01	.7251-01	.8130-01	57.73	3.442	.4376	.579.9
31	.60000	.60000	184.00	.5693-01	.8138-01	.9123-01	57.79	3.868	.4370	.580.2
29	.60000	.80000	185.00	.3709-01	.4493-01	.5024-01	58.09	2.192	.4267	.580.2
29	.60000	.85000	186.00	.4521-01	.5482-01	.6135-01	58.76	2.657	.4298	.567.7
31	.60000	.90000	187.00	.4179-01	.5088-01	.5710-01	57.40	2.399	.4406	.6679-03
31	.75000	.25000	189.00	.2078	.2476	.2784	56.67	11.49	.4475	.6181-03
31	.75000	.10000	190.00	.66615-01	.3112-01	.9118-01	56.72	3.769	.4471	.593.1
31	.75000	.30300	191.00	.594-01	.72-9-01	.8107-01	57.05	3.378	.4439	.592.5
31	.75000	.50000	192.00	.872-01	.1063	.1194	57.07	.976	.4438	.8767-03
31	.75000	.70000	193.00	.395-01	.4817-01	.5406-01	57.37	2.269	.4409	.588.2
29	.75000	.80000	194.00	.314C-01	.3808-01	.4262-01	58.77	1.845	.4298	.1291-02
29	.75000	.85000	195.00	.335-0-01	.4055-01	.4540-01	58.48	1.953	.4325	.5851-03
31	.75000	.90000	196.00	.2448-01	.2985-01	.3352-01	57.09	1.308	.4436	.588.2
31	.85000	.10000	197.00	.5043-01	.1106	.1245	56.18	5.080	.4522	.1343-02
31	.85000	.30000	198.00	.8070-01	.9870-01	.1111	56.23	4.538	.4517	.599.4
31	.85000	.50000	199.00	.1079	.1319	.1485	56.17	6.058	.4523	.1198-02
31	.90000	.30000	201.00	.8956-01	.1100	.1241	55.43	4.970	.4593	.1602-02
31	.90000	.60000	200.00	.5100-01	.6606-01	.7435-01	56.19	3.034	.4521	.1335-02
31	.95000	.50000	203.00	.1194	.1467	.1655	55.10	6.579	.4624	.8019-03
31	.95000	.10000	204.00	.1296	.1591	.1735	55.26	7.162	.4609	.1779-02
31	.95000	.30000	205.00	.7552-01	.9880-01	.1043	55.07	4.159	.4627	.1931-02
31	.95000	.50000	206.00	.7595-01	.932-01	.1052	55.27	4.197	.4608	.1126-02
31	.95000	.70000	207.00	.3475-01	.4260-01	.4801-01	55.71	1.936	.4566	.610.9
31	.95000	.90000	208.00	.3205-01	.3942-01	.4455-01	54.76	1.755	.4656	.617.1
31	.95500	.60000	209.00	.1594	.1963	.2219	54.57	8.700	.4674	.619.5
31	.95500	.80000	210.00	.2834-01	.3481-01	.3935-01	54.90	1.556	.4643	.2381-02

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ARC 3.5-178 IH3

WING BOTTOM

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(REF 1005)

ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+I+S

WING BOTTOM

AVL = 5.000 BETA = -5.000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	AVL PER FT	PO PSTA	TO DEG. R	HO BTU/LBM	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
36	5.300	.5031+07	406.1	1297.	316.8	.1750-01	.8269	.0000
37	5.300	.5149+07	401.9	1270.	309.8	.1750-01	.8285	.0000
38	5.300	.5055+07	406.0	1293.	315.8	.1750-01	.8282	.0000
39	5.300	.5045+07	406.2	1295.	316.3	.1750-01	.8279	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	ODOT BTU/FT <sup>2</sup> SEC	HW/HT	TW DEG. R	STN NO R=0.9
39	.25000	.250000-01	155.00	.1509	.1834	.2056	57.54	.4361	.574.8
39	.25000	.153000-01	156.00	.1029	.1249	.1398	56.91	.4326	.570.2
39	.25000	.298000-01	157.00	.5696-01	.6910-01	.7735-01	56.958	.4312	.568.3
39	.25000	.444000-01	158.00	.6448-01	.7821-01	.8752-01	58.15	.4307	.567.2
39	.25000	.530000-01	159.00	.5562-01	.6742-01	.7542-01	58.33	.4286	.565.0
38	.25000	.735300-01	160.00	.1435	.1737	.1941	58.67	.4243	.558.4
38	.25000	.900000-01	161.00	.17C7-01	.2066-01	.2310-01	58.57	.4253	.559.7
38	.40000	.250000-01	164.00	.1767	.2147	.2406	57.52	.4253	.572.8
38	.40000	.100000-00	165.00	.5703-01	.6931-01	.7767-01	57.47	.4357	.573.4
38	.40000	.207000-01	166.00	.3651-01	.4132-01	.4965-01	57.76	.4330	.569.8
38	.40000	.302000-01	167.00	.4546-01	.5510-01	.6168-01	58.23	.4285	.563.9
38	.40000	.559000-01	168.00	.1155	.1398	.1563	58.52	.4257	.560.3
38	.40000	.732000-01	169.00	.1269	.1539	.1720	58.29	.4279	.563.1
36	.40000	.930000-01	170.00	.8948-01	.1095	.1214	58.17	.4291	.564.7
38	.50000	.250000-01	172.00	.2197	.2679	.3089	56.60	.4440	.584.4
38	.50000	.177000-01	173.00	.6425-01	.7809-01	.8752-01	57.46	.4358	.573.6
38	.50000	.300000-01	174.00	.9412-01	.1142	.1278	57.97	.4309	.567.1
38	.50000	.487000-01	175.00	.9552-01	.1158	.1296	58.12	.4296	.565.3
38	.50000	.660000-01	176.00	.5459-01	.1148	.1285	57.97	.4309	.567.2
38	.50000	.700000-01	177.00	.1125	.1365	.1528	57.95	.4312	.567.5
38	.50000	.900000-01	178.00	.9335-01	.1133	.1268	57.90	.4317	.568.1
38	.60000	.100000+00	179.00	.1001	.1220	.1370	56.80	.4421	.581.9
38	.60000	.201000-01	180.00	.1156	.1405	.1575	57.37	.4367	.574.7
38	.60000	.300000-01	181.00	.9331-01	.1132	.1267	57.97	.4309	.567.1

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

DATE 24 JAN 76

ARC 3.5-178 IH3

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(IRE1005)

RUN NUMBER	2Y/B	X/C	T/C NO	ARC 3.5-178 IH3 O+T+S			WING BOTTOM			HA/HT	TH DEG.	R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF FT/SEC	QDOT BTU/ FT2SEC	QDOT BTU/ FT2SEC				
38	.60000	.42800	182.00	.1176	.1427	.1597	57.98	6.818	.4309	567.0	.1727-02		
38	.60000	.60000	183.00	.8508-01	.1032	.1155	57.99	4.933	.4308	567.0	.1250-02		
38	.60000	.70000	184.00	.8374-01	.1016	.1137	58.04	4.860	.4303	566.3	.1230-02		
36	.60000	.80000	185.00	.5451-01	.6632-01	.7439-01	57.36	3.127	.4397	579.3	.8042-03		
36	.60000	.85000	186.00	.6337-01	.7720-01	.8655-01	57.07	3.617	.4415	583.1	.9359-03		
38	.60000	.90000	187.00	.5691-01	.6909-01	.7736-01	57.80	3.290	.4326	569.3	.8364-03		
38	.75000	.25000-01	189.00	.3735	.4548	.5104	56.92	21.26	.4409	580.3	.5504-02		
38	.75000	.10000-00	190.00	.1273	.1550	.1739	57.02	7.259	.4400	579.1	.1875-02		
38	.75000	.30300	191.00	.1637	.2050	.2297	57.49	9.696	.4396	573.2	.2484-02		
38	.75000	.50000	192.00	.1476	.1793	.2009	57.54	8.490	.4351	572.6	.2170-02		
38	.75000	.70000	193.00	.5699-01	.6917-01	.7745-01	57.86	3.298	.4320	568.6	.8374-03		
36	.75000	.80000	194.00	.4660-01	.5676-01	.6371-01	57.03	2.661	.4413	582.7	.6881-03		
36	.75000	.85000	195.00	.3322-01	.6489-01	.7287-01	56.84	3.025	.4437	585.9	.7866-03		
38	.75000	.90000	196.00	.4293-01	.5214-01	.5841-01	57.66	2.475	.4339	5.1	.6311-03		
38	.85000	.10000-00	197.00	.1223	.1674	.1674	56.72	6.938	.4429	582.8	.1804-02		
38	.85000	.30000	198.00	.1767	.2151	.2414	56.99	10.07	.4403	579.5	.2603-02		
38	.85000	.50000	199.00	.1765	.2148	.2410	57.00	10.06	.4402	579.4	.2604-02		
38	.90000	.30000	201.00	.1115	.1360	.1528	56.49	6.297	.4451	585.7	.1645-02		
38	.90000	.60000	200.00	.7684-01	.9350-01	.1049	57.17	4.393	.4386	577.2	.1134-02		
38	.95000	.50000-01	203.00	.1465	.1799	.2010	56.32	8.252	.4467	587.9	.2164-02		
38	.95000	.10000-00	204.00	.1465	.1787	.2007	56.49	8.275	.4450	585.7	.2164-02		
38	.95000	.30000	205.00	.9163-01	.1118	.1257	56.31	5.160	.4467	587.9	.1353-02		
38	.95000	.50000	206.00	.1048	.1278	.1436	56.51	5.921	.4449	585.5	.1546-02		
38	.95010	.70000	207.00	.6804-01	.8285-01	.9286-01	56.97	3.876	.4405	579.7	.1002-02		
38	.95010	.90000C	208.00	.5733-01	.7002-01	.7874-01	56.14	3.219	.4484	590.1	.8469-03		
38	.96500	.00000	209.00	.1485	.1915	.2042	55.97	8.312	.4500	592.3	.2195-02		
38	.99300	.00000	210.00	.4485-01	.5474-01	.6152-01	56.35	2.528	.4464	587.5	.6622-03		

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ARC 3.5-178 1H3

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## WING BOTTOM

ARC 3.5-178 1H3

(REF ID: A61)

	RN/L	MACH	RN/L PER FT	PO PSIA	T0 DEG. R	HO LB/FT	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.	ELEVON ■ .0000
40	5.300	.1636+07	130.4	1287.	314.1	.1750-01	.2668	.0000		
41	5.300	.1582+07	126.6	1290.	315.0	.1750-01	.2586	.0000		
42	5.300	.1522+07	122.7	1296.	316.5	.1750-01	.2500	.0000		
43	5.300	.1516+07	123.1	1302.	318.0	.1750-01	.2500	.0000		

## WING BOTTOM

ARC 3.5-178 1H3 ORBITER

WING BOTTOM

	RN/L	MACH	RN/L PER FT	PO PSIA	T0 DEG. R	HO LB/FT	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.	ELEVON ■ .0000
40	5.300	.1636+07	130.4	1287.	314.1	.1750-01	.2668	.0000		
41	5.300	.1582+07	126.6	1290.	315.0	.1750-01	.2586	.0000		
42	5.300	.1522+07	122.7	1296.	316.5	.1750-01	.2500	.0000		
43	5.300	.1516+07	123.1	1302.	318.0	.1750-01	.2500	.0000		

## \*\*\*TEST CONDITIONS\*\*\*

RN/L = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST DATA\*\*\*

RN/L = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

RUN NUMBER	X/Y/B	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	OREF BTU/FT <sup>2</sup> SEC	QDOT BTU/FT <sup>2</sup> SEC	HW/HT	TH DEG. R	STN NO R=0.9
40	.25000	.250000-01	155.00	.6958-01	.8448-01	.9462-01	32.54	.8271	.4331	567.1	.1799-02
40	.25000	.15300	156.00	.2534-01	.3075-01	.3443-01	32.63	.6271	.4316	565.0	.6549-03
40	.25000	.29900	157.00	.1622-01	.1968-01	.2203-01	32.67	.5300	.4310	564.3	.4191-03
40	.25000	.44400	158.00	.1306-01	.1583-01	.1772-01	32.71	.4271	.4302	563.2	.3372-03
40	.25000	.59000	159.00	.1123-01	.1361-01	.1522-01	32.80	.3682	.4288	561.4	.2898-03
41	.25000	.73600	160.00	.1909-01	.2312-01	.2585-01	32.56	.6217	.4262	559.5	.5007-03
41	.25000	.90111	161.00	.8111-02	.9823-02	.1038-01	32.57	.2642	.2642	559.3	.2127-03
41	.25000	.250000-01	164.00	.1724	.2090	.2338	32.38	5.582	.4293	563.5	.4525-02
40	.40000	.10000+00	165.00	.5505-01	.6672-01	.7464-01	32.42	1.785	.4286	562.7	.1445-02
40	.40000	.20000	166.00	.2957-01	.3583-01	.4007-01	32.47	.9600	.4278	561.6	.7759-03
40	.40000	.30200	167.00	.2442-01	.2959-01	.3309-01	32.52	.7942	.4270	560.5	.6407-03
40	.40000	.59200	168.00	.2141-01	.2593-01	.2899-01	32.55	.6968	.4268	559.8	.5615-03
40	.40000	.70000	169.00	.1783-01	.2159-01	.2413-01	32.56	.5804	.4262	559.5	.4675-03
40	.40000	.90000	170.00	.8718-02	.1056-01	.1180-01	32.59	.2841	.4256	558.8	.2286-03
40	.50000	.250000-01	172.00	.1858	.2265	.2534	32.35	6.041	.4298	564.3	.4903-02
50	.50000	.17700	173.00	.3277-01	.3971-01	.4441-01	32.46	1.064	.4279	561.7	.8599-03
50	.50000	.30200	174.00	.2892-01	.3503-01	.3917-01	32.51	.9401	.4271	560.7	.7586-03
50	.50000	.48700	175.00	.3102-01	.3757-01	.4201-01	32.52	1.009	.4269	560.4	.8136-03
50	.50000	.60000	176.00	.3008-01	.3643-01	.4073-01	32.54	.9788	.4266	560.0	.7889-03
50	.50000	.70100	177.00	.2437-01	.2952-01	.3300-01	32.56	.7936	.4262	559.5	.6393-03
50	.50000	.90000	178.00	.1079-01	.1306-01	.1460-01	32.59	.7515	.4258	559.0	.2829-03
60	.60000	.10000+00	174.00	.5729-01	.6944-01	.7768-01	32.42	1.857	.4297	562.8	.1504-02
60	.60000	.20000	180.00	.3414-01	.4136-01	.4626-01	32.49	1.109	.4274	561.1	.8957-03
60	.60000	.30000	181.00	.2688-01	.3256-01	.3640-01	32.54	.6747	.4266	560.0	.7051-03

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ARC 3.5-178 IH3

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(REFIG08)

RUN NUMBER	2Y/B	X/C	T/C NO	ARC 3.5-178 IH3 ORBITER			WING BOTTOM			HM/HT			TW DFO. R		STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ F12SEC	Q00T BTU/ F12SEC	F12SEC	4264	559.8	559.6	559.3	559.3	
41	.60000	.42000	182.00	.3497-01	.4235-01	.4735-01	32.55	1.138		4263	559.6	559.6	559.3	559.3	.9172-03
41	.60000	.60000	183.00	.3426-01	.4149-01	.4639-01	32.56	1.115		4260	559.3	559.3	559.4	559.4	.8986-03
41	.60000	.70000	184.00	.2560-01	.3221-01	.3601-01	32.57	.9664		4176	554.2	554.2	554.2	554.2	.3676-03
43	.60000	.80000	185.00	.1378-01	.1663-01	.1855-01	32.93	.4536		4182	559.2	559.2	559.2	559.2	.4280-03
43	.60000	.85000	186.00	.1604-01	.1937-01	.2161-01	32.89	.5275		4259	559.2	559.2	559.2	559.2	.3980-03
41	.60000	.90000	187.00	.1518-01	.1838-01	.2059-01	32.58	.9444		4285	562.6	562.6	562.6	562.6	.6714-02
41	.75000	.25000-01	169.00	.2558	.3101	.3469	32.43	.8294		4281	562.0	562.0	562.0	562.0	.1996-02
41	.75000	.10000-00	190.00	.7605-01	.9217-01	.1031-01	32.45	.2468		4263	559.6	559.6	559.6	559.6	.1035-02
41	.75000	.30300	191.00	.3945-01	.4778-01	.5342-01	32.56	.1285		4265	559.9	559.9	559.9	559.9	.9332-03
41	.75000	.50000	192.00	.3558-01	.4309-01	.4818-01	32.54	.1158		4254	558.5	558.5	558.5	558.5	.3754-03
41	.75000	.70000	193.00	.1432-01	.1733-01	.1937-01	32.61	.6668		4277	553.0	553.0	553.0	553.0	.3489-03
43	.75000	.80000	194.00	.1308-01	.1579-01	.1761-01	32.95	.4309		4173	553.8	553.8	553.8	553.8	.3933-03
43	.75000	.85000	195.00	.1674-01	.1779-01	.1985-01	32.91	.4850		4179	559.3	559.3	559.3	559.3	.3164-03
41	.75000	.90000	195.00	.1207-01	.1461-01	.633-01	32.57	.3930		4261	562.7	562.7	562.7	562.7	.2384-02
41	.85000	.10000-00	197.00	.9085-01	.1101	.1232	32.42	2.945		4286	561.5	561.5	561.5	561.5	.1363-02
41	.85000	.30000	198.00	.5196-01	.6297-01	.7042-01	32.47	.1687		4277	561.7	561.7	561.7	561.7	.1243-02
41	.85000	.50000	199.00	.4739-01	.5742-01	.6422-01	32.47	.1538		4278	564.3	564.3	564.3	564.3	.1529-02
41	.90000	.30000	201.00	.5824-01	.7063-01	.7903-01	32.35	.1884		4298	561.4	561.4	561.4	561.4	.7486-03
41	.90000	.60000	200.00	.2813-01	.3457-01	.3866-01	32.48	.9265		4277	567.1	567.1	567.1	567.1	.2961-12
41	.95000	.50000-01	203.00	.1127	.1368	.1531	32.22	.3.632		4320	567.6	567.6	567.6	567.6	.2876-02
41	.95000	.10000-00	204.00	.1095	.1329	.1488	32.20	3.525		4323	569.3	569.3	569.3	569.3	.1295-02
41	.95000	.30000	205.00	.4926-01	.5980-01	.6897-01	32.17	.1.585		4329	567.1	567.1	567.1	567.1	.8555-03
41	.95000	.50000	206.00	.3256-01	.3952-01	.4424-01	32.22	.1.049		4320	563.1	563.1	563.1	563.1	.4512-03
41	.95000	.70000	207.00	.1719-01	.2084-01	.2331-01	32.40	.5570		4289	567.1	567.1	567.1	567.1	.3880-03
41	.95000	.90000	208.00	.1477-01	.1792-01	.2006-01	32.22	.4758		4320	570.3	570.3	570.3	570.3	.2875-02
41	.96600	.00000	209.00	.1078	.1310	.1467	32.08	.3.458		4345	566.4	566.4	566.4	566.4	.7428-03
41	.99300	.00000	210.00	.2827-01	.3431-01	.3841-01	32.25	.9119		4315					

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## ARC 3.5-178 IH3

## WING BOTTOM

## WING BOTTOM

(RE1007)

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RN/L	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	F:OVEL/ SLUG/ FT2SEC	ALPHA DEG.	ELEVON .0000
44	5.300	.512+07	406.4	1285.	313.6	.1750-01	.8322	.0000	
45	5.300	.5036+07	406.2	1297.	316.7	.1750-01	.8273	.0000	
46	5.300	.5003+07	405.9	1301.	317.9	.1750-01	.8248	.0000	
47	5.300	.5392+07	404.9	1240.	302.0	.1750-01	.8469	.0000	

RN/L	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	F:OVEL/ SLUG/ FT2SEC	ALPHA DEG.	ELEVON .0000
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## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	TH DEG.	STN NO R=0.9		
44	.250000-01	155.00	.7242-01	.8876-01	.1000	52.67	3.815	.4567	574.9	.1046-02	
45	.253000	156.00	.3253-01	.3983-01	.485-01	52.95	1.723	.4539	571.3	.4693-03	
46	.259000	157.00	.2379-01	.2911-01	.3277-01	53.11	1.263	.4524	569.4	.3510-03	
47	.244000	158.00	.2390-01	.2923-01	.3290-01	53.22	1.272	.4513	568.0	.3445-03	
47	.250000	159.00	.3647-01	.4455-01	.5010-01	53.46	1.950	.4488	565.0	.5261-03	
46	.250000	160.00	.6973-01	.8458-01	.9466-01	58.43	4.075	.4303	570.1	.1028-02	
46	.250000	161.00	.2105-01	.2555-01	.2861-01	58.29	1.227	.4317	571.9	.3107-03	
46	.400000	.250000-01	.1537	.1873	.2102	57.16	8.785	.4123	586.0	.2275-02	
46	.400000	.10000+00	165.00	.4901-01	.5973-01	57.07	2.797	.4431	587.1	.7259-03	
46	.400000	.200000	166.00	.2993-01	.4044-01	57.32	1.715	.4408	583.9	.4428-03	
46	.400000	.302000	167.00	.4054-01	.4941-01	55.38-01	57.80	2.349	.4363	578.0	.6005-03
46	.400000	.559000	168.00	.8278-01	.1005	.1125	58.19	4.817	.4325	573.0	.1222-02
46	.400000	.700000	169.00	.5849-01	.7103-01	.7956-01	58.09	3.397	.4336	574.4	.8635-03
46	.400000	.920000	170.00	.2439-01	.2962-01	.3519-01	57.95	1.413	.4347	575.9	.3601-03
46	.400000	.250000-01	172.00	.1958	.2393	.2693	56.31	1.102	.4504	596.7	.2907-02
46	.500000	.17750	173.00	.6236-01	.7601-01	.6535-01	57.07	3.558	.4432	587.2	.9235-03
45	.500000	.300000	174.00	.8871-01	.1079	.1210	57.60	5.110	.4382	580.5	.1342-02
46	.500000	.487000	175.00	.9293-01	.1130	.1267	57.66	5.358	.4376	579.7	.1374-02
46	.500000	.600000	176.00	.7581-01	.9225-01	.1035	57.52	4.361	.4389	581.4	.1121-02
46	.500000	.790000	177.00	.5643-01	.6866-01	.7701-01	57.55	3.248	.4386	581.0	.8345-03
46	.500000	.900000	178.00	.2205-01	.2583-01	.3008-01	57.59	1.270	.4382	580.5	.3260-03
46	.600000	.10000+00	174.00	.8158-01	.9963-01	.1120	56.55	4.613	.4481	593.6	.1210-02
46	.600000	.200000	180.00	.8144-01	.9928-01	.1115	57.04	4.645	.4435	587.5	.1205-02
46	.600000	.300000	181.00	.7340-01	.8930-01	.1001	57.58	4.227	.4383	580.7	.1085-02

RUN NUMBER	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	TH DEG.	STN NO R=0.9
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## \*\*\*TEST DATA\*\*\*

RUN NUMBER	2Y/B	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	TH DEG.	STN NO R=0.9
47	.250000	.250000-01	155.00	.7242-01	.8876-01	.1000	52.67	3.815	.4567	574.9
47	.250000	.153000	156.00	.3253-01	.3983-01	.485-01	52.95	1.723	.4539	571.3
47	.250000	.299000	157.00	.2379-01	.2911-01	.3277-01	53.11	1.263	.4524	569.4
47	.250000	.444000	158.00	.2390-01	.2923-01	.3290-01	53.22	1.272	.4513	568.0
47	.250000	.590000	159.00	.3647-01	.4455-01	.5010-01	53.46	1.950	.4488	565.0
46	.250000	.736000	160.00	.6973-01	.8458-01	.9466-01	58.43	4.075	.4303	570.1
46	.250000	.900000	161.00	.2105-01	.2555-01	.2861-01	58.29	1.227	.4317	571.9
46	.400000	.250000-01	164.00	.1537	.1873	.2102	57.16	8.785	.4123	586.0
46	.400000	.10000+00	165.00	.4901-01	.5973-01	.6707-01	57.07	2.797	.4431	587.1
46	.400000	.200000	166.00	.2993-01	.4044-01	.4089-01	57.32	1.715	.4408	583.9
46	.400000	.302000	167.00	.4054-01	.4941-01	.5538-01	57.80	2.349	.4363	578.0
46	.400000	.559000	168.00	.8278-01	.1005	.1125	58.19	4.817	.4325	573.0
46	.400000	.700000	169.00	.5849-01	.7103-01	.7956-01	58.09	3.397	.4336	574.4
46	.400000	.920000	170.00	.2439-01	.2962-01	.3519-01	57.95	1.413	.4347	575.9
46	.400000	.250000-01	172.00	.1958	.2393	.2693	56.31	1.102	.4504	596.7
46	.500000	.17750	173.00	.6236-01	.7601-01	.6535-01	57.07	3.558	.4432	587.2
45	.500000	.300000	174.00	.8871-01	.1079	.1210	57.60	5.110	.4382	580.5
46	.500000	.487000	175.00	.9293-01	.1130	.1267	57.66	5.358	.4376	579.7
46	.500000	.600000	176.00	.7581-01	.9225-01	.1035	57.52	4.361	.4389	581.4
46	.500000	.790000	177.00	.5643-01	.6866-01	.7701-01	57.55	3.248	.4386	581.0
46	.500000	.900000	178.00	.2205-01	.2583-01	.3008-01	57.59	1.270	.4382	580.5
46	.600000	.10000+00	174.00	.8158-01	.9963-01	.1120	56.55	4.613	.4481	593.6
46	.600000	.200000	180.00	.8144-01	.9928-01	.1115	57.04	4.645	.4435	587.5
46	.600000	.300000	181.00	.7340-01	.8930-01	.1001	57.58	4.227	.4383	580.7

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RUN NUMBER	2Y/B	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	WING BOTTOM	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	STN NO R=0.9
46	60000	42800	182.00	.9305-01	.1132	.1270	57.58	5.358	.4383	580.7
46	60000	.60000	183.00	.6864-01	.8352-01	.9368-01	57.54	3.950	.4387	581.2
46	60000	.70000	184.00	.4749-01	.5777-01	.6478-01	57.61	2.736	.4380	580.3
44	60000	.80000	185.00	.2547-01	.3091-01	.3461-01	57.48	1.464	.4320	564.6
44	60000	.95000	186.00	.2820-01	.3428-01	.3841-01	57.10	1.610	.4356	569.3
46	.60300	.90000	187.00	.2235-01	.2722-01	.3053-01	57.42	.293	.4399	582.7
46	.75000	.25000-01	187.00	.4005	.3909	.4391	56.93	18.25	.4445	568.9
46	.75000	.10000+00	190.00	.9208-01	.11123	.1261	56.94	5.243	.4444	588.8
46	.75000	.30300	191.00	.1260	.1535	.1723	57.24	7.211	.4416	585.0
46	.75000	.50000	192.00	.1153	.1405	.1577	57.16	6.592	.4423	585.9
45	.75000	.70000	193.00	.4225-01	.5144-01	.5771-01	57.44	2.427	.4397	582.5
44	.75000	.80000	194.00	.3277-01	.3984-01	.4465-01	57.06	1.870	.4359	569.8
44	.75000	.85000	195.00	.3578-01	.4355-01	.4885-01	56.72	2.029	.4392	574.1
46	.75000	.90000	195.00	.2662-01	.3244-01	.3642-01	57.11	1.520	.4428	586.6
46	.85000	.85000	197.00	.1136	.1388	.1561	56.37	6.402	.4493	595.9
46	.85000	.30000	198.00	.1201	.1590	.1789	56.34	7.328	.4501	596.3
46	.85000	.50000	199.00	.1447	.1769	.1991	56.24	8.136	.4510	597.5
46	.90000	.30000	200.00	.1013	.1323	.1491	55.59	5.998	.4522	605.6
46	.90000	.50000	200.00	.5946-01	.7270-01	.8180-01	56.27	3.346	.4508	597.2
46	.95000	.50000-01	203.00	.1110	.1362	.1536	55.42	6.151	.4588	607.9
46	.95000	.10000+00	204.00	.1075	.1318	.1486	55.54	5.968	.4577	606.3
46	.95000	.30000	205.00	.6962-01	.8550-01	.9650-01	55.13	3.838	.4616	611.5
46	.95000	.50000	206.00	.8163-01	.1002	.1131	55.25	4.510	.4601	609.9
46	.95000	.70000	207.00	.5065-01	.6204-01	.6990-01	55.79	2.826	.4553	603.2
46	.95000	.90000	208.00	.4744-01	.3858-01	.5358-01	54.84	2.116	.4613	615.1
46	.96660	.00000	209.00	.1055	.1295	.1464	54.89	5.788	.4619	614.5
46	.93300	.00000	210.00	.2835-01	.3482-01	.3931-01	55.09	1.562	.4226-03	612.0

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WING BOTTOM

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(REC 1008)REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

PARAMETRIC DATA					
	RN/L	MACH	RN/L PER FT	PO PSIA	T0 DEG. R
48	5.300	.1533+07	123.1	1293.	315.7
49	5.300	.1526+07	122.7	1294.	315.9
50	5.300	.1431+07	118.7	1320.	322.6
51	5.300	.1495+07	121.6	1304.	318.4

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	T0 DEG. R	HO BTU/LBH	RS FT	RHOEL SLUG/FT2SEC	ALPHA DEG.
48	5.300	.1533+07	123.1	1293.	315.7	.1750-01	.2511	.0000
49	5.300	.1526+07	122.7	1294.	315.9	.1750-01	.2502	.0000
50	5.300	.1431+07	118.7	1320.	322.6	.1750-01	.2392	.0000
51	5.300	.1495+07	121.6	1304.	318.4	.1750-01	.2469	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QDOT BTU/FT2SEC	HW/HT	TH DEG. R	STN NO R=0.9	
48	.25000	.250000-01	.7223-01	.8763-01	.9808-01	31.91	.4308	566.7	.1927-02	
49	.25000	.15300	.156.00	.2864-01	.3472-01	.3865-01	.9168	.4291	.564.5	.7636-03
48	.25000	.29900	.157.00	.1679-01	.2035-01	.2276-01	.32.04	.5378	.563.9	.4475-03
49	.25000	.44400	.158.00	.1316-01	.1595-01	.1784-01	.32.08	.4223	.4278	.3508-03
48	.25000	.59000	.159.00	.1449-01	.1755-01	.1963-01	.32.17	.4223	.4278	.3508-03
49	.25000	.73600	.160.00	.2130-01	.2582-01	.2989-01	.32.00	.4662	.4264	.3860-03
49	.25000	.90000	.161.00	.9354-02	.1135-01	.1270-01	.31.91	.2985	.4289	.561.0
49	.43300	.250000-01	.164.00	.1698	.2063	.2311	.65.66	.5377	.566.7	.2500-03
49	.43300	.100000+00	.165.00	.5394-01	.6555-01	.7345-01	.31.64	.1.707	.4348	.4544-02
49	.43300	.200000	.166.00	.2925-01	.3553-01	.3980-01	.31.70	.9274	.4352	.1444-02
49	.43300	.3C200	.167.00	.2395-01	.2938-01	.3235-01	.31.83	.6816	.4289	.5689-03
49	.43300	.55900	.168.00	.1985-01	.2408-01	.2694-01	.31.93	.2985	.4304	.4544-02
49	.40000	.7C300	.169.00	.1729-01	.2098-01	.2348-01	.31.89	.5.377	.572.5	.4662-03
49	.40000	.9C300	.170.00	.8084-02	.9814-02	.1099-01	.31.78	.2569	.4352	.573.0
49	.50000	.250000-01	.172.00	.1539	.2262	.2538	.31.41	.5.839	.571.6	.1444-02
49	.50000	.17700	.173.00	.3203-01	.3693-01	.4363-01	.31.60	.1.012	.4341	.7626-03
49	.50000	.3C000	.174.00	.2870-01	.3485-01	.3903-01	.31.76	.9115	.4318	.6191-03
49	.50000	.48700	.175.00	.2952-01	.3584-01	.4013-01	.31.78	.6339	.4301	.5305-03
49	.50000	.6C000	.175.00	.2846-01	.3456-01	.3971-01	.31.74	.5515	.4308	.4662-03
49	.50000	.7C000	.175.00	.2314-01	.2611-01	.3149-01	.31.74	.7345	.4327	.59.7
49	.50000	.9C200	.178.00	.1030-01	.1251-01	.1402-01	.31.55	.3260	.4391	.2162-03
49	.60000	.16630-00	.174.00	.5744-01	.6968-01	.7935-01	.31.48	.1.808	.578.2	.4982-02
49	.60000	.20330	.180.00	.3427-01	.4166-01	.4638-01	.31.60	.1.023	.4358	.573.9
49	.60000	.33350	.181.00	.2550-01	.3461-01	.3876-01	.31.73	.9043	.4336	.570.9

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(REFIGOB)

						ARC 3.5-178 IH3		ORBITER (TRIPS)WING BOTTOM			
RUN NUMBER	2Y/B	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	OREF BTU/FT2SEC	ODOT BTU/FT2SEC	H/H REF	DEG. R	STN NO R=0.9
49	.60000	.42800	182.00	.3419-01	.4153-01	.4651-01	.31.72	.1.085	.4338	571.1	.9147-03
49	.60000	.50000	183.00	.3577-01	.3980-01	.4458-01	.31.70	.1.039	.4341	571.6	.8766-03
49	.60000	.70000	184.00	.2517-01	.3056-01	.3423-01	.31.73	.7984	.4337	571.0	.6732-03
51	.60000	.80000	185.00	.1404-01	.1693-01	.1887-01	.33.02	.4636	.4136	548.9	.3767-03
51	.60000	.85000	186.00	.1619-01	.1953-01	.2177-01	.32.92	.5329	.4152	551.1	.4345-03
49	.60000	.90000	187.00	.1495-01	.1818-01	.2037-01	.31.57	.4721	.4363	574.5	.4003-03
49	.75000	.25000-01	189.00	.2544	.3094	.3468	.31.55	.6.027	.4368	575.1	.6814-02
49	.75000	.10000-00	190.00	.7651-01	.9304-01	.1043	.31.54	.2.413	.4369	575.3	.2049-02
49	.75000	.30310	191.00	.3932-01	.4779-01	.5353-01	.31.60	.1.242	.4359	573.9	.1053-02
49	.75000	.50010	192.00	.3450-01	.4194-01	.4701-01	.31.57	.1.089	.4364	574.7	.9236-03
49	.75000	.70000	193.00	.1411-01	.1715-01	.1922-01	.31.62	.4462	.4355	573.4	.3777-03
49	.75000	.80000	194.00	.1235-01	.1551-01	.1750-01	.32.67	.4225	.4161	552.2	.3451-03
51	.75000	.85000	195.00	.1459-01	.1761-01	.1965-01	.32.78	.4781	.4177	554.4	.3918-03
49	.75000	.90000	196.00	.1191-01	.1449-01	.1625-01	.31.47	.3748	.4380	576.8	.3190-03
49	.85000	.10000-00	197.00	.9365-01	.1140	.1279	.31.38	.2.938	.4397	579.0	.2510-02
49	.85000	.30000	198.00	.5443-01	.6627-01	.7457-01	.31.33	.1.705	.4405	580.0	.1459-02
49	.85000	.50000	199.00	.4802-01	.5349-01	.6564-01	.31.29	.1.503	.4412	580.9	.1288-02
49	.90000	.30000	201.00	.5942-01	.7245-01	.8137-01	.31.14	.1.850	.4438	584.4	.1595-02
49	.90000	.60000	200.00	.2410-01	.2936-01	.3235-01	.31.28	.7539	.4414	581.2	.6465-03
49	.95000	.51020-01	203.00	.1079	.1316	.1478	.31.09	.3.355	.4446	585.5	.2897-02
45	.95000	.10000-00	204.00	.1051	.1282	.1440	.31.07	.3.265	.4450	595.9	.2821-02
49	.95000	.30000	205.00	.4718-01	.5759-01	.6474-01	.30.96	.1.461	.4470	588.5	.1268-02
49	.95000	.50000	205.00	.3166-01	.3989-01	.4311-01	.30.97	.9868	.4467	588.2	.8560-03
49	.95000	.70000	206.00	.1673-01	.2040-01	.2291-01	.31.11	.5203	.4444	585.1	.4491-03
49	.95000	.90000	208.00	.1392-01	.1701-01	.1913-01	.30.86	.4697	.4487	590.8	.3744-03
49	.96500	.00000	209.00	.1054	.1287	.1447	.30.92	.3.259	.4477	589.5	.2834-02
49	.99300	.00000	210.00	.2741-01	.3347-01	.3762-01	.30.94	.8481	.4473	588.5	.7366-03

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ARC 3.5-178 IH3

## ARC 3.5-178 IH3 ORBITER (TRIPS)WING BOTTOM

## WING BOTTOM

	RN/L	MACH	RN/L PER FT	PO PSIA	T0 DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.	ELEV'N = .0000
52	5.300	.5053+07	405.5	1292.	315.6	.1750-01	.8274	.0000		
53	5.300	.5027+07	406.4	1299.	317.2	.1750-01	.8269	.0000		
54	5.300	.5137+07	405.1	1278.	312.0	.1750-01	.8320	.0000		
55	5.300	.4987+07	402.9	1298.	317.0	.1750-01	.8201	.0000		

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	PO PSIA	T0 DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.
55	.25000	.25000-01	155.00	.7128-01	.8673-01	.9726-01	.57.20	.4.077	.4384	.579.2
55	.25000	.15300	156.00	.3533-01	.4291-01	.4806-01	.57.67	.2.037	.4339	.573.3
55	.25000	.29900	157.00	.3032-01	.3680-01	.4120-01	.57.89	.1.755	.4319	.570.6
55	.25000	.44400	158.00	.3675-01	.4457-01	.4988-01	.58.07	.2.134	.4301	.568.2
55	.25000	.59000	159.00	.5035-01	.6100-01	.6821-01	.58.39	.2.940	.4270	.564.2
54	.25000	.73620	160.00	.6602-01	.8017-01	.8971-01	.56.91	.3.757	.4334	.563.5
54	.25000	.90000	161.00	.1982-01	.2405-01	.2694-01	.57.00	.1.130	.4326	.562.4
54	.40000	.25000-01	164.00	.1911	.2327	.2611	.56.16	.10.73	.4407	.573.0
54	.40000	.1000+00	165.30	.6749-01	.8215-01	.9216-01	.56.28	.3.798	.4396	.571.5
54	.40000	.20000	166.00	.5394-01	.6561-01	.7356-01	.56.49	.3.047	.4375	.568.8
54	.40000	.30200	167.00	.6139-01	.7461-01	.8261-01	.56.69	.3.480	.4356	.566.3
54	.40000	.5-9000	168.00	.7322-01	.8893-01	.9961-01	.56.96	.4.163	.4340	.564.2
54	.40000	.70010	169.00	.5497-01	.6676-01	.7780-01	.56.87	.3.126	.4338	.564.0
54	.40000	.90000	170.00	.2375-01	.2883-01	.3228-01	.56.99	.1.353	.4327	.562.5
54	.50000	.25000-01	172.00	.2605	.3176	.3566	.55.87	.14.56	.4435	.576.6
54	.50000	.17700	173.00	.6919-01	.8416-01	.9437-01	.56.45	.3.906	.4379	.569.3
54	.50000	.30000	174.00	.6554-01	.1037	.1163	.56.64	.4.834	.4361	.566.9
54	.50000	.48700	175.00	.8657-01	.152	.1179	.56.68	.4.907	.4356	.566.4
54	.50000	.60000	176.00	.7288-01	.6857-01	.9925-01	.56.70	.4.132	.4355	.566.2
54	.50000	.70000	177.00	.5544-01	.6736-01	.7547-01	.56.76	.3.147	.4349	.565.4
54	.50000	.90000	178.00	.2236-01	.2716-01	.3042-01	.56.89	.1.272	.4336	.563.8
54	.60000	.10000+00	174.00	.7714-01	.9393-01	.1054	.56.18	.4.334	.4405	.572.7
54	.60000	.26000	180.00	.7963-01	.9692-01	.1087	.56.48	.4.501	.4376	.568.9
54	.60000	.33000	181.00	.7420-01	.9018-01	.1011	.56.69	.4.207	.4356	.566.3

RUN NUMBER	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	PO PSIA	T0 DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.
55	.25000	.25000-01	155.00	.7128-01	.8673-01	.9726-01	.57.20	.4.077	.4384	.579.2
55	.25000	.15300	156.00	.3533-01	.4291-01	.4806-01	.57.67	.2.037	.4339	.573.3
55	.25000	.29900	157.00	.3032-01	.3680-01	.4120-01	.57.89	.1.755	.4319	.570.6
55	.25000	.44400	158.00	.3675-01	.4457-01	.4988-01	.58.07	.2.134	.4301	.568.2
55	.25000	.59000	159.00	.5035-01	.6100-01	.6821-01	.58.39	.2.940	.4270	.564.2
54	.25000	.73620	160.00	.6602-01	.8017-01	.8971-01	.56.91	.3.757	.4334	.563.5
54	.25000	.90000	161.00	.1982-01	.2405-01	.2694-01	.57.00	.1.130	.4326	.562.4
54	.40000	.25000-01	164.00	.1911	.2327	.2611	.56.16	.10.73	.4407	.573.0
54	.40000	.1000+00	165.30	.6749-01	.8215-01	.9216-01	.56.28	.3.798	.4396	.571.5
54	.40000	.20000	166.00	.5394-01	.6561-01	.7356-01	.56.49	.3.047	.4375	.568.8
54	.40000	.30200	167.00	.6139-01	.7461-01	.8261-01	.56.69	.3.480	.4356	.566.3
54	.40000	.5-9000	168.00	.7322-01	.8893-01	.9961-01	.56.96	.4.163	.4340	.564.2
54	.40000	.70010	169.00	.5497-01	.6676-01	.7780-01	.56.87	.3.126	.4338	.564.0
54	.40000	.90000	170.00	.2375-01	.2883-01	.3228-01	.56.99	.1.353	.4327	.562.5
54	.50000	.25000-01	172.00	.2605	.3176	.3566	.55.87	.14.56	.4435	.576.6
54	.50000	.17700	173.00	.6919-01	.8416-01	.9437-01	.56.45	.3.906	.4379	.569.3
54	.50000	.30000	174.00	.6554-01	.1037	.1163	.56.64	.4.834	.4361	.566.9
54	.50000	.48700	175.00	.8657-01	.152	.1179	.56.68	.4.907	.4356	.566.4
54	.50000	.60000	176.00	.7288-01	.6857-01	.9925-01	.56.70	.4.132	.4355	.566.2
54	.50000	.70000	177.00	.5544-01	.6736-01	.7547-01	.56.76	.3.147	.4349	.565.4
54	.50000	.90000	178.00	.2236-01	.2716-01	.3042-01	.56.89	.1.272	.4336	.563.8
54	.60000	.10000+00	174.00	.7714-01	.9393-01	.1054	.56.18	.4.334	.4405	.572.7
54	.60000	.26000	180.00	.7963-01	.9692-01	.1087	.56.48	.4.501	.4376	.568.9
54	.60000	.33000	181.00	.7420-01	.9018-01	.1011	.56.69	.4.207	.4356	.566.3

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## ARC 3.5-178 IH3

(IRE1009)

RUN NUMBER	2Y/B	X/C	T/C NO	H/HPEF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HT	TW DEG. R	STN NO R=0.9
54	.60000	.42800	182.00	.9252-01	.1124	.1260	56.69	5.245	.4355	566.2	.1352-02
54	.60000	.60000	183.00	.6918-01	.8406-01	.9420-01	56.71	3.923	.4353	566.0	.1011-02
54	.60000	.70000	184.00	.4539-01	.6001-01	.6723-01	56.78	2.805	.4347	565.1	.7218-03
52	.60000	.85000	185.00	.2548-01	.3453-01	.3487-01	58.21	1.483	.4279	562.8	.3739-03
52	.60000	.85000	186.00	.2639-01	.3446-01	.3859-01	57.76	1.640	.4322	568.3	.4173-03
54	.60000	.90000	187.00	.2234-01	.2775-01	.3109-01	56.82	1.298	.4343	564.6	.3338-03
54	.75100	.25000-01	189.00	.3150	.3836	.4304	56.19	17.70	.4404	572.6	.4612-02
54	.75050	.10000+00	190.00	.8575-01	.1044	.1171	56.29	4.827	.4395	571.3	.4255-02
54	.75000	.30300	191.00	.1C+b	.1516	.1699	56.67	7.071	.4357	566.5	.1824-02
54	.75000	.50000	192.00	.1137	.1382	.1543	56.65	6.442	.4360	566.8	.1662-02
54	.75000	.70000	193.00	.4284-01	.5208-01	.5833-01	56.89	2.439	.4337	563.8	.6264-03
52	.75000	.80000	194.00	.3268-01	.3932-01	.4500-01	57.63	1.840	.4334	569.9	.4822-03
52	.75020	.85200	195.00	.3574-01	.4346-01	.4872-01	57.25	2.046	.4370	574.8	.5261-03
54	.75020	.90000	196.00	.2722-01	.3309-01	.3775-01	56.77	1.546	.4348	565.3	.3960-03
54	.85000	.10100+00	197.00	.1C35	.1257	.1411	56.08	5.787	.4414	573.9	.1511-02
54	.85000	.30000	198.00	.1315	.1601	.1750	56.29	7.403	.4395	571.4	.1925-02
54	.85000	.50000	199.00	.1403	.1708	.1916	56.24	7.891	.4399	571.9	.2054-02
54	.85000	.30000	200.00	.1226	.1495	.1680	55.73	3.833	.4448	578.3	.1798-02
54	.85000	.60000	201.00	.5375-01	.7271-01	.8156-01	56.33	3.366	.4391	570.8	.8744-03
54	.95000	.50000-01	203.00	.1C16	.1315	.1418	55.35	5.956	.4406	583.2	.1580-02
54	.95000	.10300+00	204.00	.1C40	.1270	.1310	55.44	5.767	.4477	582.0	.1527-02
54	.95000	.30000	205.00	.7C35-01	.8597-01	.9571-01	55.23	3.886	.4497	584.6	.1033-02
54	.95000	.50000	206.00	.3516-01	.4152	.4133	55.42	4.775	.4478	582.2	.1265-02
54	.95000	.70000	207.00	.5162-01	.6530-01	.7323-01	56.13	3.010	.4410	573.3	.7852-03
54	.95000	.90000	208.00	.3854-01	.4707-01	.5293-01	55.35	2.133	.4485	583.1	.5659-03
54	.95000	.00000	209.00	.1032	.1263	.1422	54.90	5.665	.4529	588.8	.1517-02
54	.99309	.00000	210.00	.2694-01	.3298-01	.3697-01	55.49	1.495	.4471	581.3	.3953-03

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卷之三

MC 3.5-178 HIS 0+1+S

WING BOTTOM

(RE)C19)

10000 10000 10000 10000 10000 10000 10000 10000

卷之三

CONTINUATION

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	T0 DEG. R	HO BTU/LBM	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
70	5.300	.4906+.07	407.3	1320.	322.8	.1750-.01	.8258	-5.000
71	5.300	.5001+.07	406.8	1303.	318.4	.1750-.01	.8258	-5.000
72	5.300	.4987+.07	403.9	1300.	317.5	.1750-.01	.8213	-5.000

TEST DATA

RUN NUMBER	2Y/B	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF F12SEC	QDOT BTU/F12SEC	TH DEG. R	STN NO R=0.9
70	.250000	.250000-01	155.00	.9028-01	.1098	.1212	61.41	5.545	.4123	.1334-02
70	.250000	.153000	156.00	.1177	.14.8	.1579	61.66	7.260	.4100	.1739-02
70	.250000	.299000	157.00	.6509-01	.7835-01	.8723-01	61.77	4.021	.4090	.9611-03
70	.250000	.444000	158.00	.6212-01	.7476-01	.8322-01	61.82	3.840	.4085	.9170-03
70	.250000	.590000	159.00	.5027-01	.6047-01	.6729-01	61.99	3.116	.4069	.7418-03
70	.250000	.800000	165.00	.4123-01	.4987-01	.5566-01	59.39	2.452	.4192	.6078-03
72	.600000	.850000	186.00	.5292-01	.6403-01	.7154-01	58.92	3.118	.4236	.7802-03
72	.600000	.850000	186.00	.5292-01	.6403-01	.7154-01	58.92	3.118	.4237	.5601-03
72	.750000	.800000	194.00	.3112-01	.3765-01	.4207-01	58.79	1.337	.4237	.4588-03
72	.750000	.850000	195.00	.4122-01	.4993-01	.5583-01	58.53	2.412	.4273	.6082-03

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ARC 3.5-178 1H3

APC 3.5-178 1H3 0+1+S

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(REIHO1)

## CLUSTER B AND C

## CLUSTER B AND C

RNL. = 1.500    BETA = .0000    ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH PER FT.	RNL	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
3	5.300	1.491+07	165.6	1581.	390.9	.1750-01	.2979	.0000
5	5.300	1.411+07	141.9	1487.	366.2	.1750-01	.2656	.0000
9	5.300	1.475+07	122.8	1222.	323.2	.1750-01	.2472	.0000
10	5.300	1.454+07	118.8	1367.	319.3	.1750-01	.2407	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	2Y/B	S	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QDOT BTU/FT2SEC	HW/HF	HW/HF	STN NO R=0.9
3	.60000		211.00	.3325	.3931	.4326	.52.83	17.57	.3515	.572.6
	.50000-01		212.50	.3141	.3713	.4063	.52.83	16.59	.3515	.572.6
	.13E30+0G		213.00	.2244	.2652	.2713	.52.89	11.87	.3508	.571.4
	.15E30		214.00	.1710	.2022	.2124	.52.91	9.050	.3506	.571.1
	.22E30		215.00	.1440	.1702	.1812	.52.95	7.624	.3501	.570.4
	.25E30		216.00	.1055	.1248	.1350	.53.05	5.603	.3490	.568.5
	.32E30		217.00	.7454-01	.8697-01	.9643-01	.43.43	3.238	.3831	.584.7
	.63E30		218.00	.8127-01	.9539-01	.1071-01	.53.15	4.320	.3477	.566.5
	.50000-01		219.00	.1559	.1843	.2027	.52.94	8.254	.3502	.570.5
	.13E30+00		220.00	.1258	.1487	.1635	.52.94	6.662	.3502	.570.6
	.15E30		221.00	.99E-01	.1177	.1239	.52.95	5.272	.3501	.570.4
	.15E30		222.00	.8012-01	.9473-01	.1042	.52.96	4.243	.3500	.570.2
	.25E30		223.00	.55E1-01	.6590-01	.7529-01	.43.40	2.396	.3835	.585.3
	.65E30		224.00	.4653-01	.5562-01	.6158-01	.43.41	2.023	.3834	.585.1
	.85E30		225.00	.39E1-01						.1252-02



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(REF 1H03)

## CLUSTER B AND C

ARC 3.5-178 LH3 O+T+S (TRIPS)

CLUSTER B AND C

## PARAMETRIC DATA

RN/L	=	1.500	BETA	=	.0000	ALPHA	=	.0000	ELEVON	=	.0000
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## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
19	5.300	.1500+.07	122.6	1308.	319.5	.1750-.01	.2485	.0000
20	5.300	.1537+.07	121.3	1279.	312.1	.1750-.01	.2491	.0000
21	5.300	.1523+.07	122.0	1291.	315.3	.1750-.01	.2492	.0000
22	5.300	.1470+.07	122.1	1321.	322.9	.1750-.01	.2459	.0000

## \*\*\*TEST DATA\*\*\*

RN NUMBER	2Y/B	S	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HW/HT	TW DEG. R	STN NO R=C.9
20	.6000		211.00	.3249	.3949	.4426	31.02	10.08	.4360	567.2	.8682-02
20	.6000		.50000-.01	.212.00	.3058	.3717	.4167	.9.476	.4365	567.7	.8172-02
20	.6000		.10000+.00	.213.00	.2141	.2603	.2917	31.01	.4362	567.4	.5721-02
20	.6000		.15000	.214.00	.1623	.1980	.2219	31.00	.4363	567.5	.4353-02
20	.6000		.20000	.215.00	.1351	.1641	.1839	31.03	.4357	566.7	.3608-02
20	.6000		.25000	.216.00	.1062	.1217	.1364	31.07	.4351	565.9	.2676-02
22	.6000		.30000	.217.00	.7462-.01	.9000-.01	.1003	33.50	.4147	558.0	.2016-02
20	.85000		.001000	.218.00	.7855-.01	.9539-.61	.1068	31.16	.4335	563.8	.2097-02
20	.85000		.500000-.01	.219.00	.1500	.1828	.2048	31.05	.4353	566.3	.4019-02
20	.85000		.610000-.06	.220.00	.1167	.1442	.1616	31.02	.4359	566.9	.3171-02
20	.85000		.15000	.221.00	.9316-.21	.132	.1269	31.02	.4359	567.0	.2.89-02
20	.85000		.20000	.222.00	.74	.9013-.01	.1010	31.00	.4362	567.4	.1981-02
22	.85000		.25000	.223.00	.536	.6500-.01	.7249-.01	33.43	.4158	559.5	.1456-02
22	.85000		.30000	.224.00	.4577-.01	.5522-.01	.6158-.01	33.44	.4156	559.3	.1237-02

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ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S (TRIPS)

CLUSTER B AND C

CLUSTER B AND C

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(RE1H04)

RN/L = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

RN/L = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
-	5.300	.4977+.07	406.3	1307	319.2	1750-.01	.8238	.0000
-	5.200	.5006+.07	406.2	1302.	317.9	1750-.01	.8254	.0000
-	5.300	.5006+.07	406.4	1302.	318.0	1750-.01	.8257	.0000
32	5.300	.5039+.07	406.7	1297.	316.8	1750-.01	.8281	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	ZY/B	S	T/C NO	H/HREF R=1.0	H/HREF R=.9	H/HREF R=0.9	QREF BTU/FT <sup>2</sup> SEL	QDOT BTU/FT <sup>2</sup> SEC	HW/HF	TW DEG. R	STN NO R=.9
31	.60000	.00000	211.00	.3324	.4067	.4578	56.17	18.67	.4523	599.5	.4937-02
31	.60000	.50000-.01	212.00	.3076	.4239	.56.06	17.25	.4533	600.8	.4570-02	
31	.60000	.10000+.00	213.00	.2113	.2592	.2919	56.11	11.89	.4529	600.2	.3147-02
31	.60000	.15000	214.00	.1688	.2065	.2325	56.14	9.473	.4526	599.9	.2506-02
31	.60000	.20000	215.00	.1415	.1731	.1948	56.18	7.949	.4522	599.3	.2101-02
31	.60000	.25000	216.00	.1036	.1265	.1423	56.51	5.852	.4491	595.2	.1536-02
29	.60000	.30000	217.00	.7656-.01	.9334-.01	.1048	57.30	4.387	.4436	590.1	.1136-02
31	.85000	.00000	218.00	.5775-.01	.7046-.01	.7919-.01	56.83	3.282	.4460	591.1	.8557-03
31	.85000	.50000-.01	219.00	.1362	.1665	.1873	56.36	7.676	.4505	597.1	.2021-02
31	.85000	.19000+.00	220.00	.1123	.1373	.1545	56.22	6.311	.4518	598.8	.1667-02
31	.85000	.15000	221.00	.9163-.01	.1121	.1262	56.21	5.150	.4519	599.0	.1360-02
31	.65000	.20000	222.00	.7647-.01	.9360-.01	.1054	56.04	4.286	.4535	601.0	.1136-02
29	.85000	.25000	223.00	.56.6-01	.6848-01	.7691-01	57.24	3.214	.4442	590.9	.8336-03
29	.85000	.30000	224.00	.4848-01	.5911-01	.6638-01	57.28	2.777	.4438	590.4	.7196-03



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CLUSTER B AND C

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## CLUSTER B AND C

PARAMETRIC DATA

## PARAMETRIC DATA

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

RUN NUMBER	MACH	RNL/ PER FT	PJ PSIA	TO DEG.	R	HO BTU/ LBM	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.	STN NO R=0.9
RUN NUMBER	2Y/B	S	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	TH DEG.	TH DEG.
••• TEST DATA •••										
40	5.300	.1636+07	130.4	1287.		314.1	.1750-01	.2668	.0000	.1013-01
41	5.300	.1582+07	126.6	1290.		315.0	.1750-01	.2586	.0000	.9905-02
42	5.300	.1522+07	122.7	1296.		316.5	.1750-01	.2500	.0000	.6739-02
43	5.300	.1516+07	123.1	1302.		318.0	.1750-01	.2500	.0000	.5099-02
41	.60000	.00000	211.00	.3857	.4579	.5237	32.29	12.45	.3038	.565.6
41	.60000	.50000-01	212.00	.3770	.4575	.5121	32.25	12.16	.3114	.566.1
41	.60000	.10000+00	213.00	.2566	.3113	.3484	32.31	8.291	.3035	.565.2
41	.60000	.15000	214.00	.1941	.2355	.2635	32.31	6.272	.3036	.565.3
41	.60000	.20000	215.00	.1622	.1967	.2202	32.34	5.245	.3030	.564.6
41	.60000	.25000	216.00	.1191	.1444	.1616	32.36	3.855	.2996	.564.0
41	.60000	.30000	217.00	.8649-01	.1046	.1168	32.63	2.822	.2226	.560.1
43	.60000	.35000	218.00	.6143-01	.9968-01	.9968-01	32.46	2.822	.2226	.2137-02
41	.85000	.00000	219.00	.1104	.1104	.1104	32.46	2.643	.2226	.4229-02
41	.85000	.50000-01	219.00	.1611	.1953	.2195	32.37	5.214	.2249	.563.7
41	.85000	.10000+00	220.00	.1216	.1475	.1650	32.38	3.938	.2293	.3193-02
41	.85000	.15000	221.00	.1021	.1239	.1385	32.38	3.306	.2293	.563.6
41	.85000	.20000	222.00	.8039-01	.9747-01	.9747-01	32.38	2.603	.2293	.2110-02
43	.85000	.25000	223.00	.6011-01	.8019-01	.8019-01	32.66	1.963	.2222	.1606-02
43	.85000	.30000	224.00	.5201-01	.6290-01	.7024-01	32.67	1.699	.2220	.1390-02

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ATC 3.5-178 IH3

## CLUSTER B AND C

ARC 3.5-178 IH3 ORBITER

CLUSTER B AND C

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(RF 407)

RN/L = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## PARAMETRIC DATA

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	P0 PSIA	TO DEG. R	HO BTU/LBHM	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
44	5.300	.5 12.07	406.4	1285.	313.6	.1750-01	.8322	.0000
45	5.300	.5036*07	406.2	1297.	316.7	.1750-01	.8273	.0000
46	5.300	.5003*07	405.9	1301.	317.9	.1750-01	.8248	.0000
47	5.300	.5392*07	404.9	1290.	302.0	.1750-01	.8469	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	2Y/3 S	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	ADOT BTU/FT2SEC	H/H/HT	TH DEG. R	STH NO R=0.9
46	.60000	.00000	211.00	.5072	.6196	.65682	.56.48	.4488	.594.6	.7526-02
45	.60000	.50000-01	212.00	.4645	.5677	.63986	.56.36	.4499	.596.0	.6895-02
46	.60000	.10000-00	213.00	.3139	.3836	.4335	.56.36	.4499	.596.0	.4659-02
46	.50000	.15000	214.00	.2542	.3107	.3495	.56.37	.4498	.595.9	.3774-02
46	.50000	.20000	215.00	.2104	.2571	.28931	.56.41	.4494	.594.6	.3422-02
46	.50000	.25000	216.00	.1623	.1982	.2227	.56.70	.4467	.591.8	.2407-02
44	.EC000	.30000	217.00	.1197	.1662	.1644	.55.70	.4490	.586.8	.1760-02
46	.85000	.00000	218.00	.7898-01	.9628-01	.1081	.57.02	.4436	.587.7	.1170-02
46	.25000	.50000-01	219.00	.1820	.2222	.2498	.56.64	.4473	.592.5	.2699-02
46	.85000	.10000-00	220.00	.1453	.1775	.1996	.56.55	.4481	.593.7	.2155-02
46	.85000	.15000	221.00	.1146	.1400	.1574	.56.54	.4482	.593.7	.1700-02
46	.85000	.20000	222.00	.9421-01	.1151	.1295	.56.36	.4499	.596.0	.1399-02
44	.85000	.25000	223.00	.6184-01	.7557-01	.1511-01	.55.63	.4497	.587.7	.9099-03
44	.85000	.30000	224.00	.5126-01	.6264-01	.5-01	.55.64	.4496	.587.6	.7541-03

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ARC 3.5-178 IH3

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(RE)HOB

## CLUSTER B AND C

ARC 3.5-178 IH3 ORBITER (TRIPS) CLUSTER B AND C

			PARAMETRIC DATA											
			RN/L	=	1.500	BETA	=	.0000	ALPHA	=	.0000	ELEVON	=	.0000

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
48	5.300	.1533-07	123.1	1293.	315.7	.1750-01	.2511	.0000
49	5.300	.1526-07	122.7	1294.	315.9	.1750-01	.2502	.0000
50	5.300	.1431-07	118.7	1320.	322.6	.1750-01	.2392	.0000
51	5.300	.1495-07	121.6	1304.	318.4	.1750-01	.2469	.0000

\*\*\*TEST CONDITIONS\*\*\*

\*\*\*TEST DATA\*\*\*

R. N NUMBER	2Y/B	S	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HT	TH DEG. R	STN NO R=0.9
49	.60000	00000	211.00	.3796	.4620	.5182	31.41	11.92	.4392	578.3	.1017-01
49	.60000	.50000-01	212.00	.3560	.4334	.4862	31.38	11.17	.4397	579.0	.9543-02
49	.60000	.10000+00	213.00	.2545	.3098	.3475	31.39	7.99	.4395	578.6	.6822-02
49	.60000	.15000	214.00	.1923	.2340	.2625	31.39	6.035	.4396	578.8	.5153-02
49	.60000	.20000	215.00	.1602	.1949	.2186	31.41	5.030	.4392	578.3	.4292-02
49	.60000	.25000	216.00	.1199	.1459	.1636	31.44	3.769	.4387	577.6	.3212-02
51	.60000	.30000	217.00	.8664-01	.1C47	.1169	32.64	2.828	.4200	557.4	.2329-02
49	.95000	.00000	218.00	.8110-01	.9863-01	.1106	31.51	2.556	.4373	575.9	.2172-02
49	.85000	.50000-01	219.00	.1646	.2003	.2247	31.41	5.170	.4391	576.2	.4411-02
49	.85000	.10000-00	220.00	.1262	.1536	.1723	31.40	3.962	.4394	578.5	.3382-02
49	.85000	.15000	221.00	.1031	.1255	.1408	31.42	3.241	.4390	578.1	.2764-02
49	.85000	.20000	222.00	.8114-01	.9877-01	.1108	31.37	2.545	.4398	579.1	.2175-02
51	.85000	.25000	223.00	.6072-01	.7341-01	.8197-01	32.57	1.978	.4213	559.1	.1633-02
51	.85000	.30000	224.00	.5224-01	.6316-01	.7052-01	32.57	1.702	.4213	559.1	.1405-02

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ARC 3.5-178 IH3

ARC 3.5-178 IH3

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(RE1H09)

## CLUSTER B AND C

3.5-178 IH3 ORBITER (TRIPS) CLUSTER B AND C

## PARAMETRIC DATA

RN/L = 5.000    BETA = .0000    ALPHA = .0000    ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOVEL SLUG/SEC	ALPHA DEG.
52	5.300	.5053+07	405.5	1292.	315.6	.1750-01	.8274	.0000
53	5.300	.5027+07	406.4	1299.	317.2	.1750-01	.8269	.0000
54	5.300	.5137+07	405.1	1278.	312.0	.1750-01	.8320	.0000
55	5.300	.4987+07	402.9	1298.	317.0	.1750-01	.8201	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	2Y/B	S	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/SEC	QDOT BTU/SEC	HM/HT	HM/HT	TW DEG. R	STN NO R=0.9
54	.60000	.00000	211.00	.5514	.6723	.7550	.55.85	.30.80	.4436	.4436	.576.8	.8082-02
54	.60000	.50000-01	212.00	.5027	.6130	.6884	.55.82	.28.06	.4440	.4440	.577.2	.7369-02
54	.60000	.10000-00	213.00	.3205	.3907	.4387	.55.90	.17.92	.4432	.4432	.576.2	.4697-02
54	.60000	.15000	214.00	.2514	.3100	.3481	.55.92	.14.22	.4430	.4430	.575.9	.3727-02
54	.60000	.20000	215.00	.2047	.295	.2801	.56.00	.11.47	.4422	.4422	.575.0	.2999-02
54	.60000	.25000	216.00	.1565	.1905	.2138	.56.18	.8.79	.4421	.4421	.572.7	.2291-02
52	.60000	.30000	217.00	.1152	.1406	.1579	.56.40	.6.49	.4452	.4452	.585.4	.1701-02
54	.85000	.00000	218.00	.8169-01	.9936-01	.1114	.56.48	.4.614	.4376	.4376	.568.9	.1195-02
54	.85000	.50000-01	219.00	.1813	.2208	.2478	.56.11	.10.17	.4411	.4411	.573.5	.2655-02
54	.85000	.10000+00	220.00	.1405	.1405	.1921	.56.06	.7.87	.4416	.4416	.574.2	.2058-02
54	.85000	.15000	221.00	.1122	.1367	.1535	.56.06	.6.291	.4417	.4417	.574.3	.1644-02
54	.85000	.20000	222.00	.8633-01	.1052	.1181	.56.00	.4.835	.4422	.4422	.574.9	.1265-02
52	.85000	.25000	223.00	.6864-01	.8377-01	.9416-01	.56.25	.3.861	.4456	.4456	.587.3	.1014-02
52	.85000	.30000	224.00	.5734-01	.6998-01	.7863-01	.56.26	.3.226	.4464	.4464	.587.1	.8467-03

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ARC 3.5-178 IH3

ARC 3.5-178 IH3 0+T+S

CLUSTER B AND C

PAGE 186  
(RE1H19)

CLUSTER B AND C

PARAMETRIC DATA

RN/L = 5.000 BETA = .0000 ALPHA = -5.000 ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PEP FT	PO PSIA	TO DEG.	R BTU/LBM	HO BTU/FT	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
70	5.300	.490.07	.407.3	1320.	322.8	.1750-01	.8205	-5.000	
71	5.300	.5001+07	.406.8	1303.	318.4	.1750-01	.8258	-5.000	
72	5.300	.4987+07	.403.9	1300.	317.5	.1750-01	.8213	-5.000	

\*\*\*TEST DATA\*\*\*

RUN NUMBER	ZY/B	S	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT <sup>2</sup> SEC	QDOT BTU/FT <sup>2</sup> SEC	HW/HT	TW DEG. R	STN NO R=0.9
72	.60000	.30000	217.00	.9318-01	.1135	.1274	.57.02	5.313	.4416	.584.3
72	.85000	.25000	223.00	.6033-01	.7353-01	.8256-01	.56.87	3.431	.4431	.586.3
72	.85000	.30000	224.00	.4997-01	.6089-01	.6836-01	.56.93	2.045	.4425	.585.5

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ARC 3.5-178 IH3

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WING TOP SURF

ARC 3.5-178 IH3 O+T+S

(REJ101)

1

## WING TOP

RN/L = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU LBM	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
3	5.300	.1491+07	165.6	1581.	390.9	.1750-01	.2979	.0000
5	5.367	.1411+07	141.9	1487.	365.2	.1750-01	.2856	.0000
9	5.700	.1476-07	122.8	1322.	323.2	.1750-01	.2472	.0000
0	5.300	.1454+07	118.8	1307.	319.3	.1750-01	.2407	.0000

## \*\*\*TEST CONDITIONS\*\*\*

RN/L	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU LBM	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
3	5.300	.1491+07	165.6	1581.	390.9	.1750-01	.2979	.0000
5	5.367	.1411+07	141.9	1487.	365.2	.1750-01	.2856	.0000
9	5.700	.1476-07	122.8	1322.	323.2	.1750-01	.2472	.0000
0	5.300	.1454+07	118.8	1307.	319.3	.1750-01	.2407	.0000

## \*\*\*TEST DATA\*\*\*

PIN NL-18ER	2Y/B	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	OREF R=0.85	ODOT BTU/FT2SEC	HW/HF	TW DEG. R	STN NO R=0.9
5	.40000	.50000-01	225.00	.1316	.1569	.1737	.43.59	.3810	.581.5	.3532-02
5	.40000	.20000	226.00	.3083-01	.3672-01	.4060-01	.43.92	.354	.574.5	.8267-03
5	.40000	.60000	227.00	.1172-02	.1394-02	.1541-02	.44.12	.5169-01	.5738	.3140-04
5	.40000	.95000	228.00	.5755-02	.6853-02	.7575-02	.43.98	.2531	.573.2	.1543-03
3	.60000	.50000-01	229.00	.1452	.1715	.1886	.53.17	.7.722	.566.1	.3730-02
3	.60000	.20000	230.00	.3414-01	.4027-01	.4425-01	.53.53	.428	.559.3	.8761-03
5	.60000	.60000	231.00	.6904-02	.8213-02	.9074-02	.44.18	.3050	.569.0	.1849-03
3	.60000	.80000	232.00	.1960-02	.2311-02	.2538-02	.53.72	.1053	.3729	.5029-04
5	.60000	.90000	233.00	.1862-02	.2240-02	.2475-02	.44.07	.8294-01	.571.3	.5043-04
3	.60000	.95000	234.00	.4433-02	.5229-02	.5745-02	.53.53	.2373	.559.3	.1138-03
5	.80000	.50000-01	235.00	.2176	.2593	.2869	.43.72	.9.512	.578.7	.5838-02
5	.80000	.20000	235.00	.4978-01	.5927-01	.6552-01	.43.99	.2.190	.573.1	.1334-02
5	.80000	.60000	237.00	.9741-02	.1159-01	.1280-01	.44.20	.4305	.568.7	.2609-03
5	.80000	.65000	238.00	.7613-02	.9053-02	.1001-01	.44.15	.3361	.559.8	.2040-03
5	.80000	.90000	239.00	.5713-02	.6836-02	.7578-02	.44.03	.2536	.572.2	.1544-03
5	.80000	.95000	240.00	.6143-02	.6768-02	.6768-02	.44.00	.2263	.5754	.1379-03

DATE 24 JAN 76

ARC 3.5-178 1H3

WING TOP SURF

ARC 3.5-178 1H3 O+T+S

RN/L

WING TOP

= 5.000

WING TOP

ELEVON = .0000

PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.
15	5.300	.4972+07	405.4	1305.	318.9	.1750-01	.8223	.0000
16	5.300	.4953+07	406.3	1310.	320.2	.1750-01	.8223	.0000
17	5.300	.5006+C7	405.7	1300.	317.6	.1750-01	.8248	.0000
18	5.300	.5098+07	404.9	1284.	313.4	.1750-01	.8294	.0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	2Y/B	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HWT	HW DEG. R	HW DEG. R	STN NO R=0.9
15	.40000	.50000-01	225.00	.1403	.1709	.1918	.57.40	.4415	.586.7	.2082-02	.4918-03
15	.40000	.20000	226.00	.3326-.01	.4034-01	.4515-01	.58.59	.4303	.571.8	.2755-04	.64.5
15	.40000	.60000	227.00	.1856-.02	.2259-.02	.2525-02	.59.18	.4247	.564.5	.1606-03	.573.1
15	.40000	.95000	228.00	.1086-.01	.1317-01	.1475-01	.58.49	.6350	.4312	.2056-02	.581.0
17	.60000	.50000-01	229.00	.1388	.1689	.1895	.57.47	.4389	.566.7	.9187-03	.2151-03
17	.60000	.20000	230.00	.6236-.01	.7357-01	.8453-01	.58.60	.3.654	.4281	.1753-03	.569.6
15	.60000	.60000	231.00	.1458.01	.1764-01	.1971-01	.59.31	.8648	.4235	.1918-03	.562.9
17	.60000	.80000	232.00	.1192.11	.1442-01	.1610-01	.59.17	.7053	.4227	.569.9	.2141-03
15	.90000	.90000	233.00	.1298-B1	.1574-01	.1760-01	.58.74	.7625	.4288	.567.8	.3.123-02
17	.60000	.95000	234.00	.1453.01	.1761-01	.1970-01	.58.52	.8502	.4289	.574.9	.2768-03
15	.80000	.50000-01	235.00	.2102	.2564	.2879	.57.13	.12.01	.4441	.570.2	.7222-03
15	.60000	.20000	236.00	.4879-.01	.5926-01	.6638-01	.58.20	.2.839	.4340	.576.8	.1563-03
15	.80000	.60000	237.00	.1062-01	.1286-01	.1438-01	.59.14	.6283	.4251	.568.6	.1615-03
15	.80000	.80000	238.00	.1093-01	.1324-01	.1481-01	.58.85	.6432	.4278	.573.6	.2278-03
15	.80000	.90000	239.00	.1540-01	.1869-01	.2092-01	.58.45	.9002	.4316	.574.9	
15	.80000	.95000	240.00	.1871-01	.2271-01	.2543-01	.58.35	.1.092	.4325		

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(RE1102)

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 OT+S (TRIPS)

WING TOP SURF

PAGE 189  
(RE1103)

RUN NUMBER

2Y/B

WING TOP SURF

PAGE 189  
(RE1103)

RUN NUMBER	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QDOT BTU/FT <sup>2</sup> SEC	HW/HF	HW/HF	HW/HF	HW/HF	HW/HF	STN NO R=0.9
22	.40000	.50000-01	225.00	1335.	1611.	.1796	33.50	4.474	.4146	557.9	3608.02	
22	.40000	.20000	226.00	.3127-01	.3764-01	.4191-01	33.81	1.057	.4094	550.9	.8435-03	
22	.40000	.60000	227.00	.1C18-02	.1225-02	.1363-02	33.97	.3460-01	.4067	547.3	.2746-04	
22	.40000	.95000	228.00	.6633-02	.7986-02	.8893-02	33.78	.2240	.4099	559.5	.1790-03	
20	.60000	.50000-01	229.00	.1372	.1663	.1861	31.46	4.317	.4283	557.1	.3658-02	
20	.50000	.20000	230.00	.3285-01	.3976-01	.4443-01	31.68	1.041	.4243	555.0	.8745-03	
22	.60000	.60000	231.00	.6176-02	.7426-02	.8262-02	34.03	.2101	.4057	545.9	.1664-03	
20	.80000	.80000	232.00	.1200-02	.1451-02	.1621-02	31.75	.3810-01	.4230	550.2	.3193-04	
22	.50000	.95000	233.00	.1655-02	.1996-02	.2222-02	33.88	.5620-01	.4081	549.2	.4473-04	
20	.50000	.95000	234.00	.4230-02	.5195-02	.5807-02	31.60	.1356	.4257	553.8	.1143-03	
22	.60000	.50000-0-	235.00	.2120	.2557	.2851	33.50	7.103	.4146	557.9	.5729-02	
22	.60000	.60000	236.00	.4872-01	.5857-01	.6534-01	33.76	1.645	.4102	552.0	.1315-02	
22	.80000	.60000	237.00	.9295-02	.1202-01	.1337-01	33.99	.3398	.4062	546.6	.2694-02	
22	.60000	.80000	238.00	.7761-02	.9336-02	.1039-01	33.94	.2634	.4072	547.9	.2093-03	
22	.80000	.90000	239.00	.6113-02	.7430-02	.8273-02	33.83	.2088	.4091	550.4	.1665-03	
22	.80000	.95000	240.00	.6213-02	.6276-02	.6988-02	33.60	.1762	.4095	551.1	.1406-03	

## \*\*\*TEST CONDITIONS\*\*\*

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(RE1103)

PARAMETRIC DATA

PAGE 189  
(RE1103)

RN/L

RN/L

1.500

1.500

BETA

BETA

.0000

.0000

ALPHA

ALPHA

.0000

.0000

ELEVON

ELEVON

.0000

.0000

## \*\*\*TEST DATA\*\*\*

PAGE 189  
(RE1103)

RN/L

RN/L

PO

PO

TO

TO

DEG.

DEG.

R

R

BTU/LBM

BTU/LBM

HOT

HOT

BTU/FT<sup>2</sup>SECBTU/FT<sup>2</sup>SEC

RHOVEL

RHOVEL

SLUG/

SLUG/

DEG.

DEG.

ALPHA

ALPHA

DEG.

DEG.

R

R

DATE 04 DEC 75

ARC 3.5-178 '43

## WING TOP SURF

ARC 3.5-178 IH3 OT+S (TRIFF) WING TOP

PAGE 190  
(REF 104)

RN/L = 5.000    BETA = .0000    ALPHA = .0000    ELEVON = .0000

## PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LB.M	RS FT	RHOVEL SLUG/FT12SEC	ALPHA DEG.
29	5.300	.4977+07	406.3	1307.	319.2	.1750-01	.8238	.0000
30	5.300	.5006+07	406.2	1302.	317.9	.1750-01	.8254	.0000
31	5.300	.5006+07	406.4	1302.	318.0	.1750-01	.8257	.0000
32	5.300	.5039+07	406.7	1297.	316.8	.1750-01	.8281	.0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT12SEC	QDOT BTU/FT12SEC	Hm/HT	Tw DEG. R	STN NO R=0.9
29	.40000	.50000-01	225.00	.1335	.1627	.1827	.57.35	.7.656	.4432	.589.6
29	.40000	.20000	226.00	.3012-01	.3655-01	.4092-01	.58.57	1.76	.4317	.574.2
29	.40000	.60000	227.00	.1876-02	.2271-02	.2539-02	.59.21	1.111	.4257	.566.2
29	.40000	.95000	228.00	.1001-01	.1215-01	.1360-01	.58.47	.5852	.4326	.575.5
29	.40000	.50000-01	229.00	.1362	.1661	.1866	.56.94	.7.756	.4450	.589.7
31	.60000	.20000	230.00	.7327-01	.8905-01	.9980-01	.57.92	4.244	.4357	.577.5
29	.60000	.60000	231.00	.1419-01	.1718-01	.1919-01	.59.34	.8422	.4244	.564.6
31	.60000	.80000	232.00	.1074-01	.1304-01	.1460-01	.58.30	.6264	.4321	.572.7
29	.60000	.90000	233.00	.1311-01	.1590-01	.1779-01	.58.72	.7696	.4302	.572.3
31	.95000	.234.00	.1356-01	.1651-01	.1852-01	.57.49	.7795	.4398	.582.9	.2005-03
29	.80000	.50000-01	235.00	.2130	.2599	.2920	.57.10	12.16	.4455	.592.6
29	.80.10	.20000	236.00	.5533-01	.6723-01	.7533-01	.58.21	3.220	.4351	.578.8
29	.80000	.60000	237.00	.1647-01	.1995-01	.2230-01	.59.21	.9754	.4256	.566.2
29	.80000	.80000	238.00	.1439-01	.1745-01	.1952-01	.58.87	.8472	.4288	.570.5
29	.80000	.90000	239.00	.1894-01	.2300-01	.2575-01	.58.46	1.107	.4327	.575.6
29	.80000	.95000	240.00	.2302-01	.2796-01	.3132-01	.58.34	1.343	.4339	.577.2

## \*\*\*TEST DATA\*\*\*

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 0+T+S

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(RE1105)

WING TOP SURF

RN/L = 5.000    BETA = -5.000    ALPHA = .0000    ELEVON = .0000

## \*\*\* TEST CONDITIONS \*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.
36	5.300	.5031*07	406.1	1297.	316.8	.1750-01	.8269	.0000
37	5.300	.5149*07	401.9	1270.	309.8	.1750-01	.8285	.0000
38	5.300	.5055*07	406.0	1293.	315.8	.1750-01	.8282	.0000
39	5.300	.5045*07	406.2	1295.	316.3	.1750-01	.8279	.0000

## \*\*\* TEST DATA \*\*\*

RUN NUMBER	2Y/B	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HT	HW/HT	HW/HT	DEG. R	STN NO R=0.9
36	.40000	.50000-01	225.00	.7882-01	.9637-01	.1084	.56.09	.4.421	.4509	.595.4	.1168-02	
36	.40000	.20000	226.00	.2229*-01	.2783-01	.3125-01	.56.99	.1.302	.4.422	.584.0	.3374-03	
36	.40000	.60000	227.00	.6712-02	.8197-02	.9189-02	.57.58	.3.988	.4.366	.576.6	.9940-04	
36	.40000	.95000	228.00	.1371-01	.1670-01	.1874-01	.57.09	.7828	.4.413	.582.8	.2025-03	
36	.40000	.50000-01	223.00	.1081	.1317	.1478	.56.81	.6.140	.4.420	.581.7	.1593-02	
38	.60000	.20000	230.00	.3222-01	.3910-01	.4377-01	.57.93	.1.866	.4.314	.567.7	.4733-03	
36	.60000	.60000	231.00	.4193-02	.5096-02	.5711-02	.57.67	.2.418	.4.358	.575.4	.6179-04	
38	.60000	.80000	232.00	.1792-02	.2158-02	.2413-02	.58.49	.1.042	.4.261	.560.7	.2614-04	
36	.60000	.90000	233.00	.4139-02	.5039-02	.5654-02	.57.21	.2.368	.4.402	.581.2	.6110-04	
38	.60000	.95000	234.00	.4613-02	.5600-02	.5271-02	.57.80	.2.666	.4.326	.569.3	.6779-0-	
36	.80000	.50000-01	275.00	.1715	.2035	.2357	.56.22	.9.640	.4.496	.593.7	.2539-02	
36	.80000	.20000	235.00	.3689-01	.4739-01	.5320-01	.56.99	.2.216	.4.423	.584.0	.5745-03	
36	.80000	.60000	237.00	.7322-02	.8139-02	.9973-02	.57.67	.4.222	.4.358	.575.5	.1079-03	
36	.80000	.80000	248.00	.6655-02	.6096-02	.9080-02	.57.41	.3.820	.4.383	.578.8	.9817-04	
36	.80000	.90000	239.00	.7756-02	.9150-02	.1062-01	.57.06	.4.431	.4.416	.583.1	.1147-03	
36	.80000	.95000	230.00	.7604-02	.9267-02	.1040-01	.56.94	.4.330	.4.427	.584.6	.1123-03	

DATE 24 JAN 76

ARC 3.5-178 IHZ

PAGE 192

(REF 1106)

## WING TOP SURF

ARC 3.5-178 IH3 ORBITER

WING TOP

RN/L = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LB.M	RHOVEL SLUG/FT2SEC	ALPHA DEG.
40	5.300	.1636+07	130.4	1287.	314.1	.1750-01	.2663 .0000
41	5.300	.1582+07	126.6	1290.	315.0	.1750-01	.2586 .0000
42	5.300	.1522+07	122.7	1296.	316.5	.1750-01	.2500 .0000
43	5.300	.1516+07	123.1	1302.	318.0	.1750-01	.2500 .0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/F12SEC	QDOT BTU/F12SEC	HM/HIT	TW DEG. R	STN NO R=0.9
43	.40000	50000-01	225.00	.1533	.1856	.2075	.32.45	.4.973	.4258	.364 .3
43	.40000	.20000	226.00	.3197-01	.3866-01	.4317-01	.32.67	.1.044	.4220	.559 .3
43	.40000	.80000	227.30	.1653-02	.2009-02	.2243-02	.32.81	.5456-01	.4196	.556 .1
43	.40000	.95000	228.00	.4325-02	.5225-02	.5834-02	.32.78	.1.1418	.4200	.556 .7
41	.60000	.53000-01	229.00	.1663	.2018	.2258	.32.30	.5.372	.4307	.561 .4
41	.60000	.20000	230.00	.3655-01	.4429-01	.4953-01	.32.49	.1.187	.4275	.561 .2
43	.60000	.60000	231.00	.626-02	.7398-02	.8255-02	.32.88	.2014	.4184	.554 .5
41	.60000	.80000	232.00	.3925-02	.4751-02	.5310-02	.32.64	.1.281	.4249	.557 .8
43	.60000	.90000	233.00	.2702-02	.3262-02	.3640-02	.32.90	.8888-01	.4181	.554 .1
41	.60000	.95000	234.00	.2615-02	.3167-02	.354-02	.32.56	.8513-01	.4263	.559 .6
43	.80000	.50000-01	235.00	.2414	.2922	.3264	.32.56	.7.861	.4239	.561 .8
43	.30000	.20000	236.00	.5509-01	.6778-01	.7567-01	.32.75	.1.837	.4206	.557 .4
43	.80000	.60000	237.00	.1271-01	.1533-01	.1711-01	.32.93	.4181	.4176	.553 .4
43	.80000	.80000	238.00	.1018-01	.1229-01	.1370-01	.32.98	.3357	.4167	.552 .2
43	.80000	.90000	239.00	.1005-01	.1214-01	.1344-01	.32.91	.3309	.4178	.553 .7
43	.80000	.95000	240.00	.9256-02	.122-01	.1252-01	.32.89	.3058	.4182	.554 .2

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

DATE 24 JAN 76

ARC 3.5-17B 1H3

PAGE 193

WING TOP SURF

(REF ID: 7)

ARC 3.5-17B 1H3

ORBITER

WING TOP

RN/L = 5.000

PARAMETRIC DATA

TEST CONDITIONS

TEST DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TU DEG. R	BTU/LBMIN	RS FT	RHC EL SLUG/FT2SEC	ALPHA DEG.
44	5.300	.5112+07	406.4	1285.	313.6	.1750-01	.8322	.0000
45	5.300	.5036+07	406.2	1297.	316.7	.1750-01	.8273	.0000
46	5.300	.5003+07	405.9	1301.	317.9	.1750-01	.8248	.0000
47	5.300	.5392+07	404.9	1240.	302.0	.1750-01	.8469	.0000

TEST DATA

RUN NUMBER	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=C.85	OREF BTU/FT2SEC	ODET BTU/FT2SEC	HT/HT	HT/HT	STN NO R=0.9
44	.0000	.50000-01	225.05	15.7	1842	.2072	.55.63	.4497	.587.8	.2217-02
44	.40000	.20000	226.00	3683.01	4480-01	.5024-01	.56.84	.4391	.572.6	.5396-03
44	.40000	.60000	227.00	3603.02	4369-02	.4802-02	.57.69	.4299	.561.9	.5265-04
44	.40000	.95000	228.00	9784.02	1190-01	.1334-01	.56.87	.4378	.572.2	.1434-03
45	.60000	.50000-01	229.00	2789	3405	.3828	.56.63	.4474	.592.7	.4137-02
46	.60000	.20000	230.00	1048	1275	.1429	.57.66	.4376	.579.7	.1549-02
46	.60000	.60000	231.00	1432-01	1736-01	.1943-01	.57.75	.4293	.561.2	.2093-03
46	.60000	.80000	232.00	9621-02	1168-01	.1301-01	.58.27	.4318	.572.0	.1420-03
46	.60000	.90000	233.00	1113-01	1353-01	.157-01	.57.04	.4362	.570.1	.1630-03
46	.60000	.95000	234.00	1218-01	1483-01	.1663-01	.57.45	.4396	.582.4	.1802-03
46	.80000	.50000-01	235.00	4177	5107	.5747	.23.17	.4512	.589.7	.6148-02
46	.80000	.2C.00	236.00	1351	1645	.1847	.56.48	.4415	.577.1	.1982-02
46	.80000	.61000	237.00	2468-01	2995-01	.3353-01	.57.54	.4313	.563.9	.3609-03
46	.80000	.80000	238.00	1844-01	2241-01	.2511-01	.57.16	.4350	.568.5	.2700-03
46	.80000	.90000	239.00	2365-01	2879-01	.3229-01	.56.69	.4395	.574.5	.3467-03
46	.95000	.240.00	240.00	.3356-01	.2756-01	.3766-01	.56.54	.4409	.576.3	.4042-03



DATE 24 JAN 76

ARC 3.5-1/8 1H3

PAGE 195  
(RE1109)

## ARC 3.5-178 1H3 ORBITER (TRIPS)WING TOP

WING TOP SURF

RNL = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## PARAMETRIC DATA

RUN NUMBER	MACH	RNL	PO	TO	HO	RS FT	FHOLE SLUG/FT2SEC	ALPHA DEG.
		PER FT	PSIA	DEG. R	LBM			
52	5.300	.5053+07	405.5	1292.	315.6	.1750-01	.8274	.0000
53	5.300	.5057+07	406.4	1299.	317.2	.1750-01	.3269	.0000
54	5.300	.5137+07	405.1	1278.	312.0	.1750-01	.8320	.0000
55	5.300	.4987+07	402.9	1298.	317.0	.1750-01	.8201	.0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	GREF R=0.85	QDOT BTU/FT2SEC	QDOT BTU/FT2SEC	HT/HIT
52	.40000	.50000-01	225.00	.2234	.2724	.3060	.56.46	.12.61
52	.40000	.20000	226.00	.5566-01	.6757-01	.7567-01	.57.70	.3.212
52	.40000	.60000	227.00	.2255-02	.2729-02	.3049-02	.58.61	.1322
52	.40000	.95000	228.00	.6696-02	.8132-02	.9109-02	.57.60	.3857
54	.60000	.50200-01	229.00	.3388	.4132	.4641	.55.76	.4337
54	.60000	.20000	230.00	.9815-01	.1193	.1338	.56.57	.4445
52	.60000	.60000	231.00	.1327-01	.1606-01	.1794-01	.58.62	.4367
54	.60000	.80000	232.00	.8681-02	.1053-01	.1175-01	.57.19	.7778
52	.60000	.90000	233.00	.1019-01	.1238-01	.1386-01	.57.68	.4965
54	.60000	.95000	234.00	.1249-01	.1517-01	.1699-01	.56.78	.5880
52	.80000	.50000-01	235.00	.3984	.4864	.5468	.56.16	.22.37
52	.80000	.20000	236.00	.1291	.1571	.1761	.57.14	.7378
52	.80000	.60000	237.00	.2463-01	.2985-01	.3339-01	.58.21	.1.434
52	.80000	.80000	238.00	.1870-01	.2270-01	.2543-01	.57.70	.4279
52	.80000	.90000	239.00	.2377-01	.2891-01	.3242-01	.57.18	.4377
52	.80000	.95000	240.00	.2771-01	.3372-01	.3783-01	.57.02	.575.6

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	X/Y/R	T/C NO	H/HREF R=1.0	H/HREF R=0.9	GREF R=0.85	QDOT BTU/FT2SEC	QDOT BTU/FT2SEC	HT/HIT
52	.40000	.50000-01	225.00	.2234	.2724	.3060	.56.46	.12.61
52	.40000	.20000	226.00	.5566-01	.6757-01	.7567-01	.57.70	.3.212
52	.40000	.60000	227.00	.2255-02	.2729-02	.3049-02	.58.61	.1322
52	.40000	.95000	228.00	.6696-02	.8132-02	.9109-02	.57.60	.3857
54	.60000	.50200-01	229.00	.3388	.4132	.4641	.55.76	.4337
54	.60000	.20000	230.00	.9815-01	.1193	.1338	.56.57	.4445
52	.60000	.60000	231.00	.1327-01	.1606-01	.1794-01	.58.62	.4367
54	.60000	.80000	232.00	.8681-02	.1053-01	.1175-01	.57.19	.7778
52	.60000	.90000	233.00	.1019-01	.1238-01	.1386-01	.57.68	.4965
54	.60000	.95000	234.00	.1249-01	.1517-01	.1699-01	.56.78	.5880
52	.80000	.50000-01	235.00	.3984	.4864	.5468	.56.16	.22.37
52	.80000	.20000	236.00	.1291	.1571	.1761	.57.14	.7378
52	.80000	.60000	237.00	.2463-01	.2985-01	.3339-01	.58.21	.1.434
52	.80000	.80000	238.00	.1870-01	.2270-01	.2543-01	.57.70	.4279
52	.80000	.90000	239.00	.2377-01	.2891-01	.3242-01	.57.18	.4377
52	.80000	.95000	240.00	.2771-01	.3372-01	.3783-01	.57.02	.575.6

STN NO

R=0.9

DEG. R

TH

DEG. R

HT

DATE 24 JAN 76

ARC 3.5-178 IH3  
ARC 3.5-178 IH3 O+T+S

WING TOP SURF

WING TOP

PAGE 196  
(RE1119)

RN/L = 5.000 BETA = .0000 ALPHA = -5.000 ELEVON = .0000

PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOVEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
70	5.300	.4906+.07	407.3	1320.	322.8	1750-01	.8205	-5.000
71	5.300	.5001+.07	406.8	1303.	318.4	1750-01	.8258	-5.000
72	5.300	.4987+.07	403.9	1300.	317.5	1750-01	.8213	-5.000

\*\*\*TEST CONDITIONS\*\*\*

\*\*\*TEST DATA\*\*\*

RUN NUMBER	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT <sup>2</sup> SEC	QDOT BTU/FT <sup>2</sup> SEC	HW/HT	TW DEG. R	STN NO R=0.9	
72	.40000	.50000-01	225.00	.2590	.3151	.3534	.57.34	14.85	.4386	.580.4	.4837-02
72	.40000	.20000	226.00	.7266-01	.8791-01	.9822-01	.58.92	4.281	.4236	.560.5	.1071-02
72	.40000	.60000	227.00	.4679-02	.5644-02	.6293-02	.69.80	.2793	.4152	.549.4	.6880-04
72	.40000	.95000	228.00	.1717-0	.2080-01	.2326-01	.56.52	1.005	.4274	.565.5	.2534-03
72	.60000	.60000	231.00	.1942-01	.2343-01	.2613-01	.59.75	1.160	.4157	.550.1	.2866-03
72	.60000	.90000	233.00	.1804-01	.2185-01	.2444-01	.58.58	1.057	.4208	.564.8	.2662-03
72	.80000	.50000-01	235.00	.4309	.5252	.5897	.56.89	24.51	.4430	.586.1	.6392-02
72	.80000	.20000	236.00	.1516	.1840	.2060	.58.08	8.805	.4316	.571.1	.2241-02
72	.80000	.60000	237.00	.4268-01	.5160-01	.5762-01	.59.14	2.524	.4215	.557.7	.6288-03
72	.80000	.80000	238.00	.3553-01	.4305-01	.4815-01	.58.47	2.077	.4279	.566.2	.5245-03
72	.80000	.90000	239.00	.4184-01	.5081-01	.5690-01	.57.89	2.422	.4333	.573.4	.6187-03
72	.80000	.25000	240.00	.4450-01	.5407-01	.6058-01	.57.74	2.569	.4348	.575.3	.6504-03

DATE 24 JAN 76

ARC 3.5-178 1H3

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ARC 3.5-178 1H3 O+T+S

(REF 1120)

## WING TOP SURF

WING TOP

PARAMETRIC DATA

RN/L = 5.000 BETA = .0000 ALPHA = -3.000 ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TC DEG. R	HO BTU/LB/H	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
74	5.300	.5051+07	406.7	1295.	316.3	.1750-01	.8289	-3.000
76	5.300	.5017+07	406.9	1301.	317.8	.1750-01	.8270	-3.000
79	5.300	.4970-07	406.9	1309.	319.8	.1750-01	.8241	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	2Y/B	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.8	QREF BTU/F12SEC	QDOT BTU/F12SEC	HW/HT	HW/HT	TW DEG. R	STN NO R=0.9
76	.40000	.50000-01	225.00	.2068	.2518	.2825	.57.48	.11.89	.4398	.582.6	.3055-02	
76	.40000	.20000	226.00	.5749-01	.6963-01	.7784-J1	.58.93	.3.388	.4262	.564.4	.8456-03	
76	.40000	.60000	227.00	.3036-02	.3669-02	.4055-C2	.59.60	.1810	.4199	.556.1	.4457-04	
76	.40000	.95000	228.00	.1244-01	.1507-01	.1685-J1	.58.88	.7325	.4266	.565.1	.1830-03	
76	.60000	.60000	231.00	.1272-01	.1536-01	.1715-01	.59.70	.7594	.41E	.554.8	.1867-03	
76	.60000	.90000	233.00	.1164-01	.1409-01	.1574-01	.59.14	.6887	.4241	.561.8	.1711-03	
76	.80000	.50000-01	235.00	.2347	.2856	.3204	.57.50	.13.49	.4397	.582.3	.3466-02	
76	.80000	.20000	236.00	.8156-01	.9889-01	.11.06	.58.61	.4.780	.4292	.568.5	.120.-02	
76	.80000	.60000	237.00	.2481-01	.2999-01	.3348-01	.59.50	.1.476	.208	.557.3	.3645-03	
-	.80000	.80000	238.00	.2373-01	.2870-01	.3207-01	.59.24	.1.405	.4233	.560.6	.3486-03	
C	.80000	.20000	239.00	.3072-01	.3722-01	.4162-01	.58.79	.1.806	.4271	.566.1	.4520-03	
76	.80000	.95000	240.00	.3393-01	.4113-01	.4601-01	.58.66	.1.990	.4287	.567.8	.4994-03	

DATE 24 JAN 76

ARC 3.5-178 IH3

## OMS BOTTOM CREASE

PAGE 198

(REF ID: J01)

OMS BOTTOM CREASE

PARAMETRIC DATA

	RN/L	1.500	BETA	- .0000	ALPHA	- .0000	ELEVON	- .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	P0 PSIA	T0 DEG. R	HO BTU/ LBH	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
3	5.300	.1491+07	165.6	1581.	390.9	.1750-01	.2979	.0000
5	5.300	.1411+07	141.9	1487.	366.2	.1750-01	.2656	.0000
9	5.300	.1476+07	122.8	1322.	323.2	.1750-01	.2472	.0000
10	5.300	.1454+07	118.8	1307.	319.3	.1750-01	.2407	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	C	X'L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	OREF R=0.85	QDOT BTU/ FT2SEC	HN/HT DEG. R	TH DEG. R	STN NO R=0.9	
5	1.0000	.829.0	241.00	.4052-01	.4828-01	.5339-01	.43.82	1.776	.3778	.576.5	.1087-02
5	1.0000	.90000	242.00	.3674-01	.4374-01	.4835-01	.44.00	1.616	.3754	.572.9	.9847-03
5	1.0000	.97500	243.00	.2821-01	.3359-01	.3714-01	.43.96	1.240	.3759	.573.6	.7563-03

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S

## OMS BOTTOM CREASE

## OMS BOTTOM CREASE

PAGE 199  
(RE102)

## PARAMETRIC DATA

## TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	$\sigma_0$ PSIA	TO DEG. R	HO BTU/LB	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
15	5.300	.972+07	405.4	1305.	318.9	.1750-01	.8223	.0000
16	5.300	.953+07	406.3	1310.	320.2	.1750-01	.8223	.0000
17	5.300	.506+07	405.7	1300.	317.6	.1750-01	.8248	.0000
18	5.300	.5098+07	404.9	1284.	313.4	.1750-01	.8294	.0000

## TEST DATA\*\*\*

RUN NUMBER	C	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT <sup>2</sup> SEC	QDOT BTU/FT <sup>2</sup> SEC	TH DEG. R	STN NO R=0.9
15	1.0000	.82900	241.00	.4800-01	.5524-01	.6519-01	58.50	.4311	.572.9
15	1.0000	.90000	242.00	.5100-01	.6175-01	.6903-01	59.08	.4257	.565.8
15	1.0000	.97500	243.00	.4509-01	.5464-01	.6111-01	58.85	.4278	.568.6

DATE 24 JAN 76

ARC 3.5-178 IH3

GHS BOTTOM CREASE

ARC 3.5-178 IH3

0+T+S (TRIPS)

OMS BOTTOM CREASE

PAGE 200  
(REIJ03)

RN/L = 1.500      BETA = .0000      ALPHA = .0000      ELEVON = .0000

## PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
19	5.300	.1500+.07	122.6	1308.	319.5	.1750-.01	.2485	.0000
20	5.300	.1537+.07	121.3	1279.	312.1	.1750-.01	.2491	.0000
21	5.300	.1523+.07	122.0	1291.	315.3	.1750-.01	.2492	.0000
22	5.300	.1470+.07	122.1	1321.	322.9	.1750-.01	.2459	.0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	C	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QDOT BTU/ FT2SEC	HW/HIT	HW/HIT	TW DEG. R	STN NO R=0.9
22	1.0000	.82500	241.00	.3711-.01	.4470-.01	.4978-.01	33.73	1.252	.4107	552.6	.1002-.02
22	1.0000	.90000	242.00	.3522-.01	.4238-.01	.4718-.01	33.86	1.193	.4084	549.6	.9498-.03
22	1.0000	.97500	243.00	.2705-.01	.3256-.01	.3625-.01	33.85	.9158	.4087	550.0	.7297-.03

## \*\*\*TEST DATA\*\*\*

DATE 24 JAN 76

ARC 3.5-178 1H3

ARC 3.5-178 1H3 O+T+S (TRIPS)

OMS BOTTOM CREASE

PAGE 201

(REF104)

## OMS BOTTOM CREASE

RNL = 5.000    BETA = .0000    ALPHA = .0000    ELEVON = .0000

## PARAMETRIC DATA

RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DFG. R	HO LB/M	RS FT	RHOEL SLUG/FT2SEC	ALPHA DEG.
29	5.300	.4977+.07	406.3	1307.	319.2	.1750-.01	.8238	.0000
30	5.300	.5006+.07	406.2	1302.	317.9	.1750-.01	.8254	.0000
31	5.300	.5006+.07	406.4	1302.	316.0	.1750-.01	.8257	.0000
32	5.300	.5039+.07	406.7	1297.	316.8	.1750-.01	.8281	.0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	C	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	OREF BTU/FT2SEC	QDOT BTU/FT2SEC	HW/HT DEG. R	STN NO R=0.9
29	1.0000	.82900	241.00	.3728-01	.4524-01	.5066-01	.58.52	.4321	.5511-03
29	1.0000	.90000	242.00	.4523-01	.5479-01	.6126-01	.59.09	.4268	.6676-03
29	1.0000	.97500	243.00	.4050-01	.4910-01	.5494-01	.58.80	.4295	.5983-03

## \*\*\*TEST DATA\*\*\*

DATE 24 JAN 76

ARC 3.5-178 IH3

OMS BOTTOM CREASE

ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S

OMS BOTTOM CREASE

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TEST CONDITIONS***				ALPHA = .0000	ELEVON = .0000	PAGE 202 (REF J05)
				TO DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT2SEC			ALPHA DEG.
36	5.300	.5031+.07	406.1	1297.	316.8	.1750-.01	.8269			
37	5.300	.5149+.07	401.9	1270.	309.8	.1750-.01	.8285			
38	5.300	.5055+.07	406.0	1293.	315.8	.1750-.01	.8282			
39	5.300	.5045+.07	406.2	1295.	316.3	.1750-.01	.8279			
RUN NUMBER	C	X/L	T/C NO	TEST DATA***				TH DEG. R	STN NO R=0.9	TH DEG. R
				H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF			
36	1.0000	.82903	241.00	.8254-.01	.106	.1130	BTU/ FT2SEC	QDOT		
36	1.0000	.90000	242.00	.9236-.01	.1124	.1260	56.91	BTU/ FT2SEC	HB/HBT	
36	1.0000	.97500	243.00	.7150-C1	.8706-01	.9769-01	57.41	4.697	4.697	
							57.19	5.303	.4430	585.0
								4.089	.4383	578.7
									.4404	581.5
										1219-02
										.1362-02
										.1056-02

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR.  
S. P.D.R.

DATE 24 JAN 76

ARC 3.E-178 IH3

ARC 3.E-178 IH3 ORBITER

OHS BOTTOM CREASE

(REF1J06)

PAGE 203

(REF1J06)

OHS BOTTOM CREASE

OMS BOTTOM CREASE

RN/L = 1.500      BETA = .0000      ALPHA = .0000      ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LB.M	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
40	5.300	.1636+.07	130.4	1287.	314.1	.1750-.01	.2668	.0000
41	5.300	.1582+.07	126.6	1290.	315.0	.1750-.01	.2586	.0000
42	5.300	.1522+.07	122.7	1296.	316.5	.1750-.01	.2500	.0000
43	5.300	.1516+.07	123.1	1302.	318.0	.1750-.01	.2500	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	C	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HM/HT	TW DEG. R	STN NO R=0.9
43	1.0000	.82900	241.00	.4943-.01	.5976-.01	.6673-.01	.32.69	.4216	.558.7	.1321-.02
43	1.0000	.90000	242.00	.4679-.01	.5656-.01	.6315-.01	.32.73	.4210	.557.9	.1250-.02
43	1.0000	.97500	243.00	.3766-.01	.4551-.01	.5080-.01	.32.78	.4201	.556.7	.1006-.02

DATE 24 JAN 76

ARC 3.5-17B 1H3

ARC 3.5-17B 1H3 ORBITER OMS BOTTOM CREASE

OMS BOTTOM CREASE

PAGE 204  
(REF 107)

RNL = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	HNL PER FT	PO PSIA	TO REG. R	HO BTU/LBM	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
44	5.300	.5112+07	406.4	1285.	313.6	.1750-01	.8322	.0000
45	5.300	.5036+07	406.2	1297.	316.7	.1750-01	.8273	.0000
46	5.300	.5003+07	405.9	1301.	317.9	.1750-01	.8249	.0000
47	5.300	.5392+07	404.9	1240.	302.0	.1750-01	.8469	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	C	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QDOT BTU/FT2SEC	HM/HT	HM/HT	TW DEG. R	STN NO R=0.9
44	1.0000	.62900	241.00	.4049-01	.4921-01	.5515-01	.04	2.309	.4361	570.1	.5928-03
44	1.0000	.90000	242.00	.5425-01	.6581-01	.7366-01	.57	3.125	.4307	563.0	.7931-03
44	1.0000	.97500	243.00	.4710-01	.5721-01	.6408-01	.57-28	2.698	.4339	567.1	.6892-03

DATE 24 JAN 76

APC 3.5-178 IH3

APC 3.5-178 IH3 ORBITER (TRIPSIGHTS BOTTOM CREASE  
ON'S E., FROM CPCASEPAGE 205  
(REF ID: A68)

## APC 3.5-178 IH3 ORBITER (TRIPSIGHTS BOTTOM CREASE

## PARAMETRIC DATA

RN/L = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
48	5.300	.1533+0	123.1	1293.	315.7	.1750-01	.2511	.0000
49	5.300	.1522+07	122.7	1294.	315.9	.1750-01	.2502	.0000
50	5.300	.1431-07	118.7	1320.	322.6	.1750-01	.2392	.0000
51	5.300	.1495+07	121.6	1304.	318.4	.1750-01	.2469	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	C	X/L	T/C R:0	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QDOT BTU/ FT2SEC	HW'HT	HW'HT	TW	STN NO R=0.9
E	1.0000	.82900	241.00	.4103-01	.4949-01	.5516-01	.32.92	1.351	.4153	.551.2	.110.-02
5	1.0000	.90000	242.00	.4327-01	.5215-01	.5811-01	.33.06	1.431	.4128	.547.8	.1161-02
51	1.0000	.97500	243.00	.3562-01	.4294-01	.4735-01	.33.02	1.176	.4136	.548.9	.9556-03

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 ORBITER (TRIPS) OMS BOTTOM CREASE

## OMS BOTTOM CREASE

RN/L = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PC PSIA	TO DEG. R	HU BTU/ LBH	RADVEL FT	SLUG/ FT2SEC	ALPHA DEG.
52	5.300	.5053+07	405.5	1292.	315.6	.1750-01	.8274	.0000
53	5.300	.5027+07	406.4	1299.	317.2	.1750-01	.8269	.0000
54	5.300	.5137+07	405.1	1278.	312.0	.1750-01	.8320	.0000
55	5.300	.4987+07	402.9	1298.	317.0	.1750-01	.8201	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	C	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	CREF BTU/ FT2SEC	ODOT BTU/ FT2SEC	HW/HT DEG. R	TW STN NO R=0.9	
52	1.0000	.82900	241.00	.3698-01	.4.87-01	.5023-01	57.86	2.140	.4312	.567.1
52	1.0000	.90050	242.00	.5002-01	.5054-01	.6765-01	58.56	2.929	.4246	.558.4
52	1.0000	.97500	243.00	.4394-01	.5327-01	.5958-01	58.14	2.555	.4285	.563.6

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(REIJ09)

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S

OMS BOTTOM CREESE

CHE BOTTOM CREESE

PAGE 207  
(REF 19)

PARAMETRIC DATA

RN/L = .0000 ALPHA = -5.000 ELEVON = .0000

\*\*\* TEST CONDITIONS \*\*\*

RUN NUMBER	VACUUM	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	R-HOVEL SLUG/ FT SEC	ALPHA DEG.
70	5.300	.4306+.07	407.3	1320.	322.8	.1750-.01	.8205	-5.000
71	5.300	.5001+.07	406.8	1303.	318.4	.1750-.01	.8258	-5.000
72	5.300	.4987-.07	403.9	1300.	317.5	.1750-.01	.8213	-5.000

\*\*\* TEST DATA \*\*\*

RUN NUMBER	C	X/L	T/C NO	H/H-REF R=1.0	H/H-REF R=0.9	H/H-REF R=0.35	OREF BTU/ TSEC	OORT STU/ TSEC	HW/HT	TW DEG. R	STN NO R=0.9
72	1.0000	.62900	1.1.00	.5648-01	.6839-01	.7643-01	.58.73	.3.317	.4254	.562.9	.8231-03
72	1.0000	.90000	242.00	.7097-01	.8563-01	.9550-01	.50.72	.4.238	.4160	.560.5	.1044-02
72	1.0000	.97500	243.00	.5494-01	.6640-01	.7513-01	.59.25	.3.255	.4204	.556.3	.8092-03

C-4

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(REV 20)

DATE 24 JAN 76      ARC 3.5-178 IH3  
                        ARC 3.5-178 IH3 O+T+S

OMS BOTTOM CREASE

RN/L = 5.000      BETA = .0000      ELEVON = .0000

OMS BOTTOM CREASE

PARAMETRIC DATA

RUN NUMBER	MACH	PN/L FER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOVEL S. JO/ FT2SEC	ALPHA DEG.
74	5.300	.5051*07	406.7	1295.	316.3	.1750-01	.8289	-3.000
75	5.300	.5017*07	406.9	1301.	317.8	.1750-01	.8270	-3.000
79	5.00	.4970*07	406.9	1309.	319.8	.1750-01	.8241	.000

\*\*\* TEST CONDITIONS \*\*\*

RUN NUMBER	C	X/L	T/C NO	H/HRCF R=1.0	H/HRCF R=0.9	QREF B.U/ FT2SEC	QDOT FT2SEC	HW/HT	TW	HW/HT	TW	STN NO	R=0.9
76	1.0000	.82900	241.00	.5227-01	.6331-01	.7079-01	.58.87	3.077	.4268	565.2	.7689-03		
76	1.0000	.90000	242.00	.6299-01	.7615-01	.8503-01	.59.43	3.743	.4214	558.2	.9250-03		
76	1.0000	.97500	243.00	.5175-01	.6260-01	.6994-01	.59.25	3.066	.4232	560.5	.7804-03		

\*\*\* TEST DATA \*\*\*

DATE 24 JAN 76

ARC 3.5-178 IH3

PAGE 208

ARC 3.5-178 IH3 O+T+S

(RE1K01)

## OMS SIDE SURFACE

## OMS SIDE SURFACE

OMS SIDE SURFACE

RNL = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	ROVEL SLUG/FT2SEC	ALPHA DEG.
3	5.300	.1491+07	165.6	1581.	390.9	.1750-01	.2979	.0000
5	5.300	.1411+07	141.9	1487.	366.2	.1750-01	.2656	.0000
9	5.300	.1476+07	122.8	1322.	323.2	.1750-01	.2472	.0000
10	5.300	.1454+07	118.8	1307.	319.3	.1750-01	.2407	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	C	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QDOT BTU/FT2SEC	HW/HT	TW DEG. R	STN NO R=0.9
3	1.0000	.78000	246.00	.2099	.2478	.2724	53.32	11.19	.3458	.5399-02
5	1.0000	.80500	253.00	.3094	.2498	.2765	43.53	9.15	.3818	.5622-02
5	1.0000	.82900	254.00	.1282	.1530	.1693	43.52	5.581	.3819	.5443-02
5	1.0000	.86200	255.00	.5329-01	.6352-01	.7026-01	43.73	2.331	.3790	.430-02
5	1.0000	.96300	256.00	.2917-01	.3474-01	.3841-01	43.94	1.282	.3762	.7821-03

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 0+T+S

OMS SIDE SURFACE

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(RE1K02)

OMS SIDE SURFACE

		RN/L	5.000	BETA	= .0000	ALPHA	= .0000	ELEVON	= .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG.	R	HO BTU/LBMIN	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
15	5.300	.9972+.07	405.4	1305.		318.9	.1750-.01	.8223	.0000
16	5.300	.9953+.07	406.3	1310.		320.2	.1750-.01	.8223	.0000
17	5.300	.5006+.07	405.7	1300.		317.6	.1750-.01	.8248	.0000
18	5.300	.5098+.07	404.9	1284.		313.4	.1750-.01	.8294	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	C	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HW/HIT	HW/HT	STN NO R=0.9
17	1.0000	.78000	246.00	.1917	.2328	.2608	.58.04	11.13	.4334	.573.8
15	1.0000	.80500	253.00	.2407	.2932	.3292	.57.36	13.81	.4419	.587.3
15	1.0000	.82900	254.00	.1522	.1854	.2081	.57.42	8.742	.4413	.3573.02
15	1.0000	.86200	255.00	.6624-.01	.8045-.01	.9012-.01	.58.19	3.855	.4340	.2259.02
15	1.0000	.96300	256.00	.5606-.01	.6793-.01	.7597-.01	.58.87	3.300	.4276	.9805.03

DATE 24 JAN 76

9RC 3.5-178 1H3

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ONE EINE EINBEACHT

EN/L = 1.500 BE/L = .0000 ALPHA = .0000 ELEVON = .0000

***TEST CONDITIONS***							ALPHA DEG.
RUN NUMBER	MACH	RN/L PER FT	PO PS1A	TO DEG.	HO BTU/ LBH	RS FT	
19	5.300	.1500+.07	122.6	1308.	319.5	.1750-.01	.2485
20	5.300	.1537+.07	121.3	1279.	312.1	.1750-.01	.2491
21	5.300	.1523+.07	122.0	1291.	315.3	.1750-.01	.2492
22	5.200	.1500+.07	123.1	1261.	322.8	.1750-.01	.2495

TEST DATE

RUN NUMBER	C	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF P=0.85	QREF BTU/SEC	Q00T BTU/SEC	H/H	HT	TW	DEG. R	STN NO R=0.9	
20	1.0000	.78000	246.00	.1704	.2068	.2315	31.26	5.328	.4316		561.5		.4547-02	
22	1.0000	.80500	253.00	.1894	.2285	.2547	33.51	6.348	.4144		557.7		.5118-02	
22	1.0000	.82900	254.00	.1821	.1545	.1722	33.50	4.291	.4146		557.9		.3461-12	
22	1.0000	.86200	255.00	.15286	.01	.63569-01	.7095-01	33.67	1.780	.4117		554.0		.1427-02
22	1.0000	.96300	256.00	.2093	.31	.3603-01	.4012-01	33.82	1.012	.4032		550.6		.8074-03

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 0+1+S (TRIPS)

OMS SIDE SURFACE

OMS SIDE SURFACE

PAGE 212  
(REF ID: A)

RN/L = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBHM	RS FT	RHOVEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
29	5.300	.4977+07	406.3	1307.	319.2	.1750-01	.8235	.0000
30	5.300	.5006+07	406.2	1302.	317.9	.1750-01	.8254	.0000
31	5.300	.5006+07	406.4	1302.	316.0	.1750-01	.8257	.0000
32	5.300	.5039+07	406.7	1297.	316.8	.1750-01	.8281	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	C	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT <sup>2</sup> SEC	QDQT BTU/FT <sup>2</sup> SEC	HW/HT	HW/HT	TW DEG. R	STN NO R=0.9
31	1.0000	.7800	246.00	.1731	.2111	.2371	.57.03	9.874	.4442	588.7	.2564-02
29	1.0000	.8050	253.00	.2265	.2760	.3100	.57.33	12.98	.4433	589.7	.3361-02
29	1.0000	.8290	254.00	.1479	.1803	.2025	.57.35	8.485	.4431	589.5	.2195-02
29	1.0000	.8620	255.00	.6385-01	.7760-01	.8697-01	.58.13	3.712	.4358	579.7	.9451-03
29	1.0000	.9530	256.00	.5331-01	.6461-01	.7226-01	.58.94	3.142	.4282	569.6	.7872-03

DATE 24 JAN 76

ARC 3.5-17B 1H3

ARC 3.5-17B 1H3 C+T+S

OMS SIDE SURFACE  
OMS SIDE SURFACE

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(RE1K05)

RN/L = 5.000 BETA = -5.000 ALPHA = .0000 ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
36	5.300	.5031-07	406.1	1297.	316.8	.1750-01	.8269	.0000
37	5.300	.5119+07	401.9	1270.	309.8	.1750-01	.8285	.0000
38	5.300	.5055+07	406.0	1293.	315.8	.1750-01	.8282	.0000
39	5.300	.5045+07	406.2	1295.	316.3	.1750-01	.8279	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	C	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HT	TW DEG. R	STN NO R=0.9	
38	1.0000	.78000	246.00	.2503	.3044	.3413	.5729	14.34	.4375	.575.7	.3684-02
36	1.0000	.80500	253.00	.2696	.3300	.3716	.55.80	15.05	.4535	.598.9	.3998-02
36	1.0000	.82900	254.00	.1821	.22228	.2509	.55.84	10.17	.4532	.598.4	.2699-02
36	1.0000	.86200	255.00	.8374-01	.1022	.1149	.56.54	.734	.4466	.589.7	.123S-02
36	1.0000	.96300	256.00	.5716-01	.6958-01	.7805-01	.57.27	3.274	.4396	.580.5	.8436-03

DATE 24 JAN 76

ARC 3.5-178 IH3

OMS SIDE SURFACE

ARC 3.5-178 IH3

ARC 3.5-178 IH3 ORBITER

OMS SIDE SURFACE

PARAMETRIC DATA

RN/L	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
40	5.300	.1636+07	130.4	1287.	314.1	.1750-01	.2668	.0000
41	5.300	.1582+07	126.6	1290.	335.0	.1750-01	.2586	.0000
42	5.300	.1522+07	122.7	1296.	336.5	.1750-01	.2500	.0000
43	5.300	.1516+07	123.1	1302.	318.0	.1750-01	.2500	.0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HT DEG. R
41	1.0000	.78000	246.00	.1464	.1775	.986	.32.42	.4286
43	1.0000	.90500	253.00	.2507	.3037	.3389	.32.58	.4235
43	1.0000	.82900	254.00	.1553	.1879	.2100	.32.57	.4237
43	1.0000	.86200	255.00	.5341-01	.7064-01	.7890-01	.32.65	.4224
43	1.0000	.95300	256.00	.3804-01	.4597-01	.5132-01	.32.75	.4206

\*\*\*TEST DATA\*\*\*

RUN NUMBER	C	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HT DEG. R	STN NO R=0.9
41										.3843-02
43										.6703-02
43										.4152-02
43										.1561-02
43										.1016-02

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(REIK07)

DATE 24 JAN 76      ARC 3.5-178 IH3      ARC 3.5-178 IH3 ORBITER

OMS SIDE SURFACE

OMS SIDE SURFACE

R/N/L = 5.000      BETA = .0000      ALPHA = .0000      ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	R/N/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RC FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
44	5.300	.5112+07	406.4	1285.	313.5	1750-01	.8322	.0000
45	5.300	.5036+07	406.2	1297.	316.7	1750-01	.8273	.0000
46	5.300	.5003+07	405.9	1301.	317.9	1750-01	.8246	.0000
47	5.300	.5392+07	404.9	1290.	302.0	1750-01	.8169	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	C	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HT	TW	STN NO R=0.9
46	1.0000	.78000	246.00	.1589	.1937	.2176	.9.061	.4436	.587.7	.2354-02
44	1.0000	.80500	253.00	.2461	.3008	.3385	.57.02	.4501	.588.4	.3622-02
44	1.0000	.82900	254.00	.1762	.2153	.2422	.55.58	.4368	.587.6	.2592-02
44	1.0000	.86200	255.00	.7328-01	.8926-01	.1002	.55.64	.4495	.576.7	.1075-02
44	1.0000	.86300	256.00	.6148-01	.7465-01	.8360-01	.56.51	.4412	.566.0	.8995-03
							.57.37	.4330		

DATE 24 JAN 76

ARC 3.5-178 IH3

OMS SIDE SURFACE

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(RE1K08)

## ARC 3.5-178 IH3 ORBITER (TRIPSON)MS SIDE SURFACE

## PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
48	5.300	.1533+07	123.1	1293.	315.7	.1750-01	.2511	.0000
49	5.300	.1526+07	122.7	1294.	315.9	.1750-01	.2502	.0000
50	5.300	.1431+07	118.7	1320.	322.6	.1750-01	.2392	.0000
51	5.300	.1495+07	121.6	1304.	318.4	.1750-01	.2469	.0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	C	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	OREF R=0.85	QDOT BTU/ FT2SEC	HW/HIT	TH DEG. R	STN NO R=0.9
49	1.0000	.78000	246.00	.1421	.1728	.1937	31.54	.4482	.4369	.575.3
51	1.0000	.80500	253.00	.2054	.2482	.2771	32.61	.6697	.4206	.558.2
51	1.0000	.82900	254.00	.1535	.1855	.2071	32.60	5.004	.4207	.558.4
51	1.0000	.86200	255.00	.6129-01	.7399-01	.8254-01	32.81	2.011	.4172	.553.7
51	1.0000	.96300	256.00	.3972-01	.4790-01	.5340-01	32.97	1.310	.4144	.550.0

## \*\*\*TEST DATA\*\*\*

## PARAMETRIC DATA

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

DATE 24 JAN 76

ARC 3.5-178 1H3

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(REF ID: A)

## OMS SIDE SURFACE

ARC 3.5-178 1H3 ORBITER (TRIPS)ONS SIDE SURFACE

PARAMETRIC DATA					
RN/L	=	5.000	BETA	=	.0000
ALPHA	=	.0000	ELEVON	=	.0000

## ••• TEST CONDITIONS •••

RUN NUMBER	MACH	RN/L PER FT	PO PS1:4	TO DEC. R	HO BTU/LBHM	RS FT	RHOVEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
52	5.300	.5053+07	405.5	1292.	315.6	.1750-01	.8274	.0000
53	5.300	.5027+07	406.4	1299.	317.2	.1750-01	.8269	.0000
54	5.300	.5137+07	405.1	1278.	312.0	.1750-01	.8320	.0000
55	5.700	.4987+07	402.9	1298.	317.0	.1750-01	.8201	.0000

## ••• TEST DATA •••

RUN NUMBER	C	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF R:0.85	QDOT BTU/FT <sup>2</sup> SEC	HW/HT	TW DEG. R	STN NO R=0.9	
54	1.0000	.78000	246.00	.1510	.1837	.2061	56.31	8.501	.4392	.571.0	.2209-02
52	1.0000	.80500	253.00	.2125	.2594	.2916	56.19	11.94	.4472	.588.1	.3138-02
52	1.0000	.82900	254.00	.1662	.2028	.2280	56.23	9.345	.4467	.587.5	.2454-02
52	1.0000	.86200	255.00	.7167-01	.8715-01	.9769-01	57.26	4.104	.4369	.574.6	.1055-02
52	1.0000	.96300	256.00	.6036-01	.7316-01	.8183-01	58.18	3.512	.4281	.563.0	.8661-03

DATE 24 JAN 76

ARC 3.5-178 IH3

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OMS SIDE SURFACE

ARC 3.5-178 IH3

(REF 19)

OMS SIDE SURFACE

R/L = 5.000

PARAMETRIC DATA

RHO/L = 5.000

RHOVOL

SLUG/

FT2SEC

ALPHA

DEG.

MACH = .0000

ALPHA = .0000

ELEVON = .0000

RNL PER FT

PO PSIA

TO DEG. R

HO BTU/

LBH

RS FT

RHOVOL

SLUG/

FT2SEC

ALPHA

DEG.

H/HREF R=1.0

QREF

QDOT

HW/HT

STN NO

R=0.9

BTU/

R

DEG. R

R=0.9

X/L

T/C NO

H/HREF

R=0.85

BTU/

R

DEG. R

R=0.9

.80500

.253.00

.2547

.3104

.3484

56.91

14.49

.4427

585.7

.3778-02

1.0000

.254.00

.2223

.2709

.3041

56.91

12.65

.4426

585.7

.3297-02

1.0000

.255.00

.1153

.1399

.1566

58.14

6.706

.4310

570.3

.1704-02

1.0300

.256.00

.7764-01

.9381-01

.1047

59.30

4.604

.420

555.7

.1114-3-02

\*\*\*TEST CONDITIONS\*\*\*

\*\*\*TEST DATA\*\*\*

RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOVOL SLUG/ FT2SEC	ALPHA DEG.
70	5.300	.4906+07	407.3	1320.	322.8	.1750-01	.8205	-5.000
71	5.300	.5001+07	406.8	1303.	318.4	.1750-01	.8258	-5.000
72	5.300	.4987+07	403.9	1300.	317.5	.1750-01	.8213	-5.000

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S

OMS SIDE SURFACE

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(REFIK20)

OMS SIDE SURFACE

PARAMETRIC DATA

RNL = 5.000 BETA = .0000 ALPHA = -3.000 ELEVON = .0000

\*\*\* TEST CONDITIONS \*\*\*

RUN NUMBER	MACH	ANVIL PER FT	PO PSIA	TO DEG. R	HO BTU/LBH	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
74	5.300	.5051+07	406.7	1295.	316.3	.1750-01	.8289	-3.000
76	5.300	.5017-07	406.9	1301.	317.8	.1750-01	.8270	-3.000
79	5.300	.4970+07	406.9	1309.	319.8	.1750-01	.8241	.0000

\*\*\* TEST DATA \*\*\*

RUN NUMBER	C	X/I.	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/SEC	QDOT BTU/SEC	HM/HT FT2SEC	HM/HT FT2SEC	HM/HT	HM/HT	TM DEG. R	STN NO R=0.9
76	1.0000	.80500	253.00	.2600	.3162	.3545	.57.77	15.02	.4371	578.9	578.1	.3838-02	
76	1.0000	.82900	254.00	.2045	.2486	.2786	.57.83	11.82	.4365	569.1	569.1	.3017-02	
76	1.0000	.86200	255.00	.9563-01	.1160	.1298	.58.55	5.599	.4297	559.7	559.7	.1408-02	
76	1.0000	.96300	256.00	.7296-01	.8825-01	.9857-01	.59.31	4.327	.4226			.1072-02	

DATE 24 JAN 76

ARC 3.5-178 IH3

OMS TOP SURFACE

ARC 3.5-178 IH3

PAGE 220

(REF ID: A1)

RNL = 1.500    BETA = .0000    ALPHA = .0000    ELEVON = .0000

## PARAMETRIC DATA

OMS TOP SURFACE

PAGE 220

ARC 3.5-178 IH3 O+T+S

(REF ID: A1)

RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/LBH	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
3	5.300	.1491+07	165.6	1581.	390.9	.1750-01	.2979	.0000
5	5.300	.1411+07	141.9	1487.	366.2	.1750-01	.2656	.0000
9	5.300	.1476+07	122.8	1322.	323.2	.1750-01	.2472	.0000
10	5.300	.1454+07	118.8	1307.	319.3	.1750-01	.2407	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	OREF R=0.85	ODOT BTU/FT2SEC	HJ/HJ	TW DEG. R	STN NO R=0.9
5	.80500	259.00	.2132	.2544	.2815	.43.53	9.280	.7418	.582.8
5	.82900	260.00	.1216	.1459	.1606	.43.50	5.290	.3922	.583.3
5	.85200	261.03	.4439-01	.5292-01	.5895-01	.43.68	1.939	.3798	.579.6
5	.95300	262.00	.3794-01	.4521-01	.5000-01	.43.82	1.662	.5773	.576.7

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RNL	PO	TO	HO	RS	RHOVEL	ALPHA
3	5.300	.1491+07	165.6	1581.	390.9	.1750-01	.2979	.0000
5	5.300	.1411+07	141.9	1487.	366.2	.1750-01	.2656	.0000
9	5.300	.1476+07	122.8	1322.	323.2	.1750-01	.2472	.0000
10	5.300	.1454+07	118.8	1307.	319.3	.1750-01	.2407	.0000

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S

OMS TOP SURFACE

OMS TOP SURFACE

PAGE 221

(REF ID: A2)

## T/C NO

H/HREF  
R=1.0

## TEST CONDITIONS

RN/L = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

X/L

TEST DATA

RN/L PER FT PO PSIA TO DEG. R HO BTU/LBMIN

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBMIN	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
15	5.300	.4972+.07	405.4	1305.	318.9	.1750-.01	.8223	.0000
16	5.300	.4953+.07	406.3	1310.	320.2	.1750-.01	.8223	.0000
17	5.300	.5006+.07	405.7	1300.	317.6	.1750-.01	.8248	.0000
18	5.300	.5098+.07	404.9	1284.	313.4	.1750-.01	.8294	.0000

## TEST DATA

RUN NUMBER	Y	X/L	T/C NO	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/F12SEC	QDOT BTU/F12SEC	HW/HT	HW/HT	HW/HT	HW/HT	STN NO R=0.9
15	95.000	.80500	259.00	.2324	.2828	.3173	.57.64	13.39	.4392	.583	.583	3, 6-02
15	95.000	.62900	260.00	.1495	.1822	.2445	.57.40	8.583	.4415	.586	.586	.2219-02
15	95.000	.86200	261.00	.6017-01	.7315-01	.8199-01	.57.95	3.487	.4363	.579	.579	.8914-03
15	95.000	.96300	262.00	.5308-01	.7052-01	.7897-01	.58.31	3.387	.4329	.575	.575	.8595-03

DATE 24 JAN 76

ARC 3.5-178 IH3

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(REF 03)

OMS TOP SURFACE OMS TOP SURFACE

		ARC 3.5-178 IH3 O+T+ (TRIPS)			OMS TOP SURFACE			PARAMETRIC DATA		
OMS TOP SURFACE		RN/L	= 1.500	BETA	= .000J	ALPHA	= .0000	ELEVON	= .0000	
***TEST CONDITIONS***										
RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOVEL SLUG/ FT SEC.	ALPHA DEG.		
19	5.300	.1500+.07	122.6	1308.	319.5	.1750-.01	.2485	.0000		
20	5.300	.1537+.07	121.3	1279.	312.1	.1750-.01	.2491	.0000		
21	5.300	.1523+.07	122.0	1291.	315.3	.1750-.01	.2492	.0000		
22	5.300	.1470+.07	122.1	1321.	322.5	.1750-.01	.2459	.0000		
***TEST DATA***										
RUN NUMBER	Y	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/ FT SEC	QDOT BTU/ FT SEC	HW/HF	STN NO R=0.9	
22	95.000	.80500	259.00	.1897	.2288	.2551	33.49	.4148	.5125-.02	
22	95.000	.82300	260.00	.1193	.1439	.1605	33.45	.4154	.3224-.02	
22	95.000	.86200	231.00	.4584-.01	.5526-.01	.6159-.01	33.57	.4133	.1238-.02	
22	95.000	.96300	262.00	.3875-.01	.4668-.01	.5199-.01	33.70	.4112	.1046-.02	

DATE 24 JAN 76

ARC 3.5-178 1H3

ARC 3.5-178 1H4 C+T+S (TRIPS) OMS TOP SURFACE

OMS TOP SURFACE

PARAMETRIC DATA

RN/L = 5.000 BETA = .0000 ALPHA = .0000 ELEV/ON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	P <sub>1</sub> PSIA	T <sub>0</sub> DEG. R	H <sub>0</sub> BTU/LBM	RS FT	RHOVEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
29	5.300	.4977+07	406.3	1307.	319.2	.1750-01	.8238	.0000
30	5.300	.5005+07	406.2	1302.	317.9	.1750-01	.8254	.0000
31	5.300	.5006+07	406.4	1302.	318.0	.1750-01	.8257	.0000
32	5.300	.5039+07	405.7	1297.	316.8	.1750-01	.8281	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	Y	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QDOT BTU/FT <sup>2</sup> SEC	HT/HFT	HT DEG. R	STN NO R=0.9
29	95.000	-80500	259.00	.2144	.2614	.2935	.57.37	12.30	.4430	.589.3
29	95.000	.82900	260.00	.1393	.1699	.1509	.57.21	7.973	.4444	.591.2
29	95.000	.86200	251.00	.5629-01	.6050-01	.7603-01	.57.79	3.257	.4395	.584.0
29	95.000	.96700	262.00	.5705-01	.6933-01	.7769-01	.58.17	3.318	.4355	.579.3

DATE 24 JAN 76

ARC 3.5-178 IH3

OMS TOP SURFACE

ARC 3.5-178 IH3

IH3 O+T+S

RN/L = 5.000    BETA = -5.000    ALPHA = .0000    ELEVON = .0000

## PARAMETRIC DATA

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(REF ID: 05)

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBIN	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
36	5.300	.5031+07	406.1	1297.	316.9	.1750-01	.8269	.0000
37	5.300	.5149+07	401.9	1270.	309.8	.1750-01	.8285	.0000
38	5.300	.5055+07	406.0	1293.	315.8	.1750-01	.8282	.0000
39	5.300	.5045+07	406.2	1295.	316.3	.1750-01	.8279	.0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	Y	X/L	T/C NO	H/HREF R=1.0	H/HREF R=J.9	QREF R=0.85	QOT BTU/FT2SEC	HW/HT	TW DEG. R	STN NO R=0.9
36	95.000	.80500	259.00	.2092	.2561	.2885	55.77	11.67	.4538	.599.3
36	95.000	.82900	260.00	.1065	.1304	.1469	55.70	5.933	.4545	.600.2
36	95.000	.86200	261.00	.3158-01	.3859-01	.4340-01	56.29	1.778	.4489	.592.8
36	95.000	.96300	262.00	.3752-01	.4577-01	.5143-01	56.66	2.126	.4454	.588.1

## \*\*\*TEST DATA\*\*\*

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

DATE 24 JAN 76  
OMS TOP SURFACE

ARC 3.5-178 IH3  
ARC 3.5-178 IH3 ORBITER

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(REF 106)

OMS TOP SURFACE

OMS TOP SURFACE

RN/L = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	MOVEL SLUG/ FT2SEC	ALPHA DEG.
40	5.300	.1636+07	30.4	1287.	314.1	.1750-01	.2668	.0000
41	5.300	.1582+07	26.6	1290.	315.0	.1750-01	.2586	.0000
42	5.300	.1522+07	22.7	1296.	316.5	.1750-01	.2500	.0000
43	5.300	.1516+07	23.1	1302.	318.0	.1750-01	.2500	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	Y	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	Q00T BTU/ FT2SEC	HM/HT BTU/ FT2SEC	TM DEG. R	STN NO R=0.9
43	95.000	.80500	259.00	.2006	.2428	.2713	32.54	6.530	.4241	.562.1
43	95.000	.82900	260.00	.1389	.1681	.1879	32.52	4.518	.4245	.562.6
43	95.000	.86200	261.00	.5605-01	.6783-01	.7578-01	32.57	1.826	.4238	.561.6
43	95.000	.96300	262.00	.3615-01	.4371-01	.4882-01	32.68	1.181	.4218	.559.0

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(REID07)

DATE 24 JAN 76      ARC 3.5-176 IH3  
                        ARC 3.5-178 IH3 ORBITER  
OMS TOP SURFACE

OMS TOP SURFACE		OMS TOP SURFACE		PARAMETRIC DATA	
RN/L	MACH	RN/L	PO PSIA	TO DEG. R	HO BTU/ LBH
44	5.300	.5112+07	406.4	1285.	313.6
45	5.300	.5075+07	406.2	1297.	316.7
46	5.300	.5003+07	405.9	1301.	317.9
47	5.300	.5392+07	404.9	1240.	302.0

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
44	5.300	.5112+07	406.4	1285.	313.6	.1750-01	.8322	.0000
45	5.300	.5075+07	406.2	1297.	316.7	.1750-01	.8273	.0000
46	5.300	.5003+07	405.9	1301.	317.9	.1750-01	.8248	.0000
47	5.300	.5392+07	404.9	1240.	302.0	.1750-01	.8469	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	X	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QDOT BTU/ FT2SEC	QDOT BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HIT	HW/HIT	HW/HIT	STN NO R=0.9
44	.96.000	.80500	259.00	.2210	.2701	.3038	.55.60	.12.29	.4500	.588.2	.3251-02	
44	.95.000	.822900	260.00	.1529	.1870	.2104	.55.47	.8.481	.4513	.589.8	.2251-02	
44	.95.000	.862200	261.00	.6538-01	.7973-01	.8956-01	.56.16	.3.672	.4445	.581.1	.960-03	
44	.95.000	.96300	262.00	.4748-01	.5779-01	.6184-01	.56.66	.2.690	.4398	.574.8	.6961-03	

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 CRATER (TRIPS) OMS TOP SURFACE:

OMS TOP SURFACE

PAGE 227  
(REF 108)PARAMETRIC DATA  
RN/L = 1.500 BEIA = .0000 ALPHA = .0000 ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOVEL SUG/FT2SEC	ALPHA DEG.
48	5.300	.1533+07	123.1	1293.	315.7	.1750-01	.2511	.0000
49	5.300	.1526+07	122.7	1294.	315.9	.1750-01	.2502	.0000
50	5.300	.1431+07	118.7	1320.	322.6	.1750-01	.2392	.0000
51	5.300	.1495+07	121.6	1304.	318.4	.1750-01	.2469	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HM/HT	TM DEG. R	STN NO R=0.9
51	.80500	259.00	.1869	.2259	.2522	32.58	6.088	.4212	.5025-02
51	.82900	260.00	.1335	.1614	.1803	32.55	4.346	.4217	.3591-02
51	.86200	261.00	.5500-01	.6644-01	.7415-01	32.70	1.799	.4190	.1478-02
51	.96300	262.00	.3337-01	.4067-01	.4536-01	32.84	1.107	.4166	.9049-03

DATE 24 JAN 76

ARC 3.5-176 IH3

OMS TOP SURFACE

ARC 3.5-178 IH3 ORBITER (TRIPSONS TOP SURFACE

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(REF ID: 091)

		RN/L	=	5.000	BETA	=	.0000	ALPHA	=	.0000	ELEVON	=	.0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOVEL SLUGS	ALPHA DEG.
52	5.300	.5053*07	405.5	1292.	315.6	.1750-01	.1274	.0000
53	5.300	.5027*07	406.4	1299.	317.2	.1750-01	.1269	.0000
54	5.300	.5137*07	405.1	1278.	312.0	.1750-01	.8320	.0000
55	5.300	.4987*07	402.9	1298.	317.0	.1750-01	.8261	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	Y	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QDOT BTU/FT <sup>2</sup> SEC	HW/HIT	TH DEG. R	STN NO R=0.9	
52	95.000	.80500	259.00	.2127	.2596	.2918	56.26	11.97	.4465	587 2	.3141-02
52	95.000	.82900	260.00	.1527	.1865	.2097	56.09	8.565	.4481	589 3	.2256-02
52	95.000	.86200	261.00	.6555-01	.7981-01	.8955-01	56.92	3.731	.4401	578 9	.9660-03
52	95.000	.96300	262.00	.4621-01	.5656-01	.6563-01	57.47	2.771	.4349	571.9	.7092-03

DATE 24 JAN 76

ARC 3.5-178 1H3

ARC 3.5-178 1:2 0+T+S

OMS TOP SURFACE

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(REI119)

## OMS TOP SURFACE

## PARAMETRIC DATA

RN/L = 5.000 BETA = .0000 ALPHA = -5.000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO LBH	RS FT	RHOEL SLV/ FT2SEC	ALPHA DEG.
70	5.300	.4906+07	407.3	1320.	322.8	.1750-01	.8205	-5.010
71	5.300	.5001+07	406.8	1303.	318.4	.1750-01	.8258	-5.000
72	5.300	.4987+07	403.9	1300.	317.5	.1750-01	.8213	-5.000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HT	HW/HT	STN NO R=0.9
72	95.000	.80500	259.00	.2996	.4100	56.90	17.05	.4428	585.9
72	95.000	.82900	260.00	.2103	.2880	56.80	11.95	.4437	587.1
72	95.000	.86200	261.00	.8716-01	.1059	57.81	5.039	.4341	577.4
72	95.000	.96300	262.00	.5866-01	.7110-01	.7934-01	3.42+	.4287	567.2

DATE 24 JAN 76

ARC 3.5-178 TH3

OMS TOP SURFACE

ARC 3.5-178 TH3 O+T+S

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(REF 120)

OMS TOP SURFACE

RN/L = 5.000    BETA = .0000    ALPHA = -3.000    ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	T0 DEG. R	HO BTU/ LBM	RS FT	RHOVEL FT2SEC	ALPHA DEG.
74	5.300	.5051+07	406.7	1295.	316.3	.1750-01	.8289	-3.000
75	5.300	.5017+07	406.9	1301.	317.8	.1750-01	.8270	-3.000
79	5.300	.4970+07	405.9	1309.	319.8	.1750-01	.8241	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	ODOT BTU/ FT2SEC	HW/HT	HW/HT	TH DEG. R	STN NO R=0.9
76	.95.000	.80500	259.00	.2263	.2753	.3087	.57.72	13.06	.4376	579.6	.3341-02
76	.85.000	.42900	260.00	.1806	.2197	.2463	.57.70	10.42	.4378	579.8	.2666-02
76	.75.000	.86200	261.00	.8561-01	.1039	.1164	.58.20	4.983	.4330	573.5	.1262-02
76	.95.000	.96300	262.00	.6281-01	.7616-01	.8522-01	.58.58	3.680	.4294	568.8	.9248-03

INFERRED  
INDUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

DATE 24 JAN 76

ARC 3.5-178 1H3

ARC 3.5-178 1H3 O+T+S

OTS 4L 474

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(RE1M01)

OTS 4L 474

OTS 4L 474

RNL = 1.500

PARAMETRIC DATA

RNL = 1.500 BETA = 0000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/LB M	RS FT	RHOVEL SLUG/FT SEC	ALPHA DEG.
3	5.300	.1491+07	165.6	1591.	390.9	.1750-01	.2979	.0000
5	5.300	.1411+07	141.9	1487.	366.2	.1750-01	.2656	.0000
9	5.300	.1476+07	122.8	1322.	323.2	.1750-01	.2472	.0000
10	5.300	.1454+07	118.8	1307.	319.3	.1750-01	.2407	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	Z	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	DREF R=0.85	QDOT BTU/SEC	HW/HT	TW DEG. R	STN NO R=0.9
3	474.00	.78000	246.00	.26+9	.2478	.2724	53.32	11.19	.3459	.563.4
3	474.00	.80500	247.00	.1924	.2272	.2498	53.17	10.23	.3475	.566.1
5	474.00	.82900	248.00	.1042	.1243	.1375	43.57	4.54	.3812	.581.7
5	474.00	.86200	249.00	.6101-01	.7628-01	.8437-01	43.77	2.802	.3785	.577.6
5	474.00	.95300	250.00	.3702-01	.4407-01	.4871-01	44.00	1.629	.3754	.572.8
5	474.00	1.00000	251.00	.5201-01	.5006-01	.5536-01	43.81	1.841	.3779	.576.8
5	474.00	1.01400	252.00	.3662-01	.4364-01	.4827-01	43.76	1.603	.3786	.577.8

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ARC 3.5-178 IH3

OMS M.L. 474

ARC 3.5-178 IH3

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(RE1M02)

OMS M.L. = .74

RNL = 5.000

PARAMETRIC DATA

BETA = .0000

ALPHA = .0000

ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/LB.M	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
15	5.300	.4972+07	405.4	1305.	318.9	.1750-01	.8223	.0000
16	5.300	.4953+07	406.3	1310.	320.2	.1750-01	.8223	.0000
17	5.300	.5006+07	405.7	1300.	317.6	.1750-01	.8248	.0000
18	5.300	.5098+07	404.9	1284.	313.4	.1750-01	.8294	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	Z	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QDOT BTU/FT2SEC	HW/HT	HW/HT	HW/HT	HW/HT	HW/HT	HW/HT	HW/HT	STN NO R=0.9
17	474.00	.78000	246.00	.1917	.2328	.2608	.58.04	11.13	.4334	.573.8	.2830-02				
17	474.00	.20500	247.00	.2101	.2556	.2866	.57.52	.12.08	.4383	.580.3	.3105-02				
15	474.00	.82900	248.00	.1231	.1499	.1682	.57.51	.7.08	.4405	.585.4	.1827-02				
15	474.00	.86200	249.00	.8244-01	.1001	.1122	.58.21	.4.799	.4339	.576.6	.1220-02				
15	474.00	.95300	250.00	.5442-01	.6593-01	.737.5-01	.58.91	.3.206	.4272	.567.8	.8039-03				
15	474.00	1.00000	251.00	.5664-01	.6878-01	.771.1-01	.58.24	.3.268	.4336	.576.3	.8383-03				
15	474.00	1.01400	252.00	.4741-01	.5762-01	.641.7-01	.58.05	.2.752	.4354	.578.7	.7022-03				

DATE 24 JAN 76

ARC 3.5-178 1H3  
ARC

(8E) (M03)

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P1

#### **PARAMETRIC DATA**

*** TEST CONDITIONS ***							ALPHA DEG.
RUN NO	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOVEL SLUG/ FT <sup>2</sup> SEC
19	5.300	.1500+07	122.6	1308.	319.5	1750-01	.2485
20	5.300	.1537+07	121.3	1279.	312.1	1750-01	.2491
21	5.300	.1523+07	122.0	1291.	315.3	1750-01	.2492
22	5.300	.1470+07	122.1	1321.	322.9	1750-01	.2493

TEST CONDITIONS

••• TEST DATA •••							
RUN NUMBER	Z	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	C P
20	4.74 .00	.78000	246 .00	.1704	.2068	.2315	3
20	4.74 .00	.80500	247 .00	.1704	.2070	.2320	3
22	4.74 .00	.62900	248 .00	.1023	.1234	.1375	3
22	4.74 .00	.66200	249 .00	.6259	.01	.7540 .01	3
22	4.74 .00	.56300	250 .00	.3164	.01	.4169 .01	3
22	4.74 .00	1.0000	251 .00	.3884	.01	.6677 .01	3
22	4.74 .00	1.0140	252 .00	.3364	.01	.4052 .01	3

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AARC 3.5-178 1H3

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CONSTITUTIONS

CONSTANT CONDITIONS

NUMBER	MACH	RN/L PER FT	P0 FSIA	T0 DEG. R	BTU/ LBM	H0 FT	SLUG/ FT2SEC	DEG.
29	5.300	.49;.7+07	406.3	1307.	319.2	.1750-01	.8238	.0000
30	5.300	.50;06+.07	406.2	1302.	317.9	.1750-01	.8254	.0000
31	5.300	.50;06+.07	406.4	1302.	318.0	.1750-01	.8257	.0000
32	5.300	.50;39+.07	406.7	1297.	316.8	.1750-01	.8281	

RUN NUMBER	MACH	RNL PER FT	P0 FSIA	T0 DEG.	R BTU LBS
29	5.300	.497+.07	406.3	1307.	317.5
30	5.300	.5006+.07	406.2	1302.	318.0
31	5.300	.5006+.07	406.4	1302.	316.1
32	5.300	.5039+.07	406.7	1297.	

TEST DATA

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ACK 3-5-178 142

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AFRC 3.5-178 IH3 0+T+S OMS WL 474

(ARE 1405)

## PARAMETRIC DATA

RN/L = 5.000 BETA = -5.000 ALPHA = .0000 ELEVON = .0000

RUN NUMBER	MACH	TEST CONDITIONS						RS FT	RHOMEL SLUG/ FT SEC	ALPHA DEG.
		RNL PER FT	PO PSIA	TO DEG. R	HO LB/	FT				
36	5.300	.5031+.07	406.1	1297.	316.6		.1750-01	.8269	.0000	
37	5.300	.5149+.07	401.9	1270.	309.8		.1750-01	.8285	.0000	
38	5.300	.5055+.07	406.0	1293.	315.8		.1750-01	.8282	.0000	
39	5.300	.5045+.07	406.2	1295.	311.3		.1750-01	.8279	.0000	

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TEST DATA

RUN NUMBER	Z	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HTW	DEG. R	STN NO R=0.9
*** TEST DATA ***											
38	474.00	-78000	246.00	.2503	.3044	.3413	.5729	.14.34	.4375	.5684-02	
38	474.00	.80500	247.00	.2724	.3320	.3728	.56.68	.15.44	.4432	.4017-02	
36	474.00	.82900	248.00	.1788	.2186	.2459	.56.10	.10.03	.4508	.2648-02	
36	474.00	.86200	249.00	.1268	.1546	.1737	.56.74	.7.193	.4447	.1874-02	
36	474.00	.96300	250.00	.8110-01	.9866-01	.1106	.57.43	.4.658	.578.5	.1196-02	
36	474.00	1.00000	251.00	.8341-01	.1017	.1143	.56.76	.4.735	.4444	.586.9	.1233-02
36	474.00	1.01400	252.00	.6793-01	.8290-01	.9317-01	.56.56	.3.842	.4444	.589.4	.1005-02

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ORIGINAL PAGE IS POOR

DATE 24 JAN 76

ARC 3.5-178 IH3

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ARC 3.5-178 1H3 ORBITER OMS WL 474 PARAMETRIC DATA  
OMS WL 474 RN/L = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

*** TEST CONDITIONS ***										*** TEST DATA ***			
RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.	STN NO R=0.9				
40	5.300	.1636+07	130.4	1287.	314.1	1750-01	.266A	.0000					
41	5.300	.1582-07	126.6	1290.	315.0	1750-01	.2586	.0000					
42	5.300	.1522+07	122.7	1296.	316.5	1750-01	.2500	.0000					
43	5.300	.1516+07	123.1	1302.	318.0	1750-01	.2500	.0000					
*** TEST CONDITIONS ***										*** TEST DATA ***			
RUN NUMBER	Z	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	OREF BTU/ FT2SEC	QDFT BTU/ FT2SEC	HW/HT	HW/HT	TW DEG. R	TW DEG. R	STN NO R=0.9
41	474.00	.78000	246.00	.1464	.1775	.1986	32.42	4.748	.4286	.562	.6	.3843-02	
41	+74.00	.80500	247.00	.2031	.2462	.2755	32.37	6.5/3	.5295	.563	.8	.5331-02	
43	474.00	.82900	248.00	.1177	.1423	.1590	32.60	.4232	.4232	.560	.9	.3145-02	
43	474.00	.86200	249.00	.6614-01	.7998-01	.8933-01	32.66	2.161	.4221	.559	.4	.1767-02	
43	474.00	.95300	250.00	.3809-01	.4603-01	.5139-01	32.78	1.249	.4201	.556	.7	.1017-02	
43	474.00	1.0000	251.00	.4679-01	.5653-01	.6310-01	32.80	1.535	.4198	.556	.3	.1249-02	
43	474.00	1.0140	252.00	.4270-01	.5159-01	.5758-01	32.80	1.401	.4197	.556	.2	.1140-02	

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APC 3.5-178 IH3

OMS WL 474

ARC 3.5-178 IH3 ORBITER

OMS WL 474

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(RE1M07)

RN/L = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## PARAMETRIC DATA

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
44	5.300	.5112+07	406.4	1285.	313.6	.1750-01	.8322	
45	5.300	.5036+07	406.2	1297.	316.7	.1750-01	.8273	.0000
46	5.300	.5003+07	405.9	1301.	317.9	.1750-01	.8248	.0000
47	5.300	.5392+07	404.9	1240.	302.0	.1750-01	.8469	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	Z	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QDOT BTU/ FT2SEC	H/H HT	TW DEG. R	STN NO R=0.9
46	474.00	.78000	246.00	.1589	.1937	.2176	.57.02	9.051	.4136	.587.7
46	474.00	.80500	247.00	.1602	.2201	.2475	.56.50	10.18	.4486	.594.3
44	474.00	.82900	248.00	.1280	.1562	.1756	.55.92	7.158	.4469	.584.1
44	474.00	.86200	249.00	.8391-01	.1021	.1146	.56.68	4.756	.4396	.574.5
44	474.00	.96300	250.00	.5311-01	.7175-01	.8C.1-01	.57.45	3.396	.4322	.564.9
44	474.00	1.00000	251.00	.6585-01	.6015-01	.8931-01	.56.69	3.733	.4395	.574.5
44	474.00	1.01400	252.00	.5626-01	.6853-01	.7631-01	.56.49	3.178	.4414	.576.9

## PARAMETRIC DATA

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ARC 3.5-178 IH3

015 HL 474

ARC 3.5-178 IH3

ARC 3.5-178 IH3 ORBITER (TRIPS) OMS HL 474

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(RE1M08)

	RN/L	MACH	RN/L PER FT	P0 PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.	ELEVON ■ .0000
48	5.300	.1533+07	123.1	1293.	315.7	.1750-01	.2511	.0000	.0000	.0000
49	5.300	.1526+07	122.7	1294.	315.9	.1750-01	.2502	.0000	.0000	.0000
50	5.300	.1431+07	118.7	1320.	322.6	.1750-01	.2392	.0000	.0000	.0000
51	5.300	.1495+07	121.6	1304.	318.4	.1750-01	.2469	.0000	.0000	.0000

## PARAMETRIC DATA

	RN/L ■ 1.500	BETA ■ .0000	ALPHA ■ .0000	ELEVON ■ .0000
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## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	P0 PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
48	5.300	.1533+07	123.1	1293.	315.7	.1750-01	.2511	.0000
49	5.300	.1526+07	122.7	1294.	315.9	.1750-01	.2502	.0000
50	5.300	.1431+07	118.7	1320.	322.6	.1750-01	.2392	.0000
51	5.300	.1495+07	121.6	1304.	318.4	.1750-01	.2469	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	Z	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	H/H HT	H/H HT	TW DEG. R	STN NO R=0.9
49	474.00	.78000	246.00	.1421	.1728	.1937	31.54	4.482	.4369	.575.3	.3806-02	
49	474.00	.80500	247.00	.1501	.1827	.2050	31.36	4.705	.4401	.579.4	.4023-02	
51	474.00	.82900	248.00	.1066	.1288	.1437	32.65	3.480	.4199	.557.3	.2865-02	
51	474.00	.86200	249.00	.6632-01	.8004-01	.8927-01	32.84	2.178	.4166	.553.0	.1781-02	
51	474.00	.96300	250.00	.4018-01	.4844-01	.5399-01	33.03	1.327	.4134	.548.7	.1078-02	
51	474.00	1.00000	251.00	.4824-01	.5821-01	.6491-01	32.87	1.586	.4161	.552.2	.1295-02	
51	474.00	1.0140	252.00	.4323-01	.5217-01	.5819-01	32.85	1.420	.4165	.552.8	.1161-02	

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ARC 3.5-178 IH3

ARC 3.5-178 IH3 ORBITER (TRIPS)OMS HL 474

OMS HL 474

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(REIM09)

	RN/L	=	5.000	BETA	=	.0000	ALPHA	=	.0000	ELEVON	=	.0000
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\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HD BTU/LBHM	RS FT	PHOVEL SLUG/FT2SEC	ALPHA DEG.
52	5.300	.5053+07	405.5	1292.	315.6	.1750-01	.8271	
53	5.300	.5027+07	406.4	1299.	317.2	.1750-01	.6269	.0000
54	5.300	.5137+07	405.1	1279.	312.0	.1750-01	.8320	.0000
55	5.300	.4987+07	402.9	1298.	317.0	.1750-01	.8201	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	Z	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QOT BTU/FT2SEC	HW/HT	HW/HT	TW DEG. R	STN NO R=0.9
54	474.00	.78000	246.00	.1510	.1837	.2061	.56.31	8.501	.392	571.0	.2209-02
54	474.00	.80500	247.00	.1556	.1895	.2127	.56.11	8.732	.4412	573.6	.2279-02
52	474.00	.82900	248.00	.1149	.1401	.1573	.56.55	6.497	.4437	583.6	.1695-02
52	474.00	.86200	249.00	.7823-01	.9505-01	.1065	.57.45	4.494	.4351	572.2	.1151-02
52	474.00	.96100	250.00	.5782-01	.7004-01	.7932-01	.58.31	3.371	.4269	561.4	.8484-03
52	474.00	1.0000	251.00	.6480-01	.7877-01	.8829-01	.57.34	3.716	.4362	573.6	.9537-03
52	474.00	1.0141	252.00	.5454-01	.6635-01	.7441-01	.57.13	3.116	.4382	576.3	.8032-03

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ARC 3.5-178 1H3

OMS WL 474

ARC 3.5-178 1H3 O+T+S

OMS WL 474

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(REIMAG)

RN/L = 5.000    BETA = .0000    ALPHA = -5.000    ELEVON = .0000  
\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG.	HO BTU/LB.M	RS F;	RHOVEL SLUG/FT23FC	ALPHA DEG.
70	5.300	.4906+.07	407.3	1320.	328.8	1750-31	.8205	-5.000
71	5.300	.5001+.07	405.8	1303.	318.4	1750-01	.8253	-5.000
72	5.300	.4987+.17	413.3	1300.	317.5	1750-01	.8233	-5.000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	Z	X/L	T/C NO	H/HREF R=.1.0	H/HREF R=.9	H/HREF R=0.9	QDOT BTU/SEC	HW/HT	TH DEG. R	STN NO R=0.9
72	474.00	.82900	2.8.00	.1354	.1660	.1863	57.1 <sup>2</sup>	7.789	.4407	583.1
72	474.00	.85200	249.50	.1081	.1311	.1467	58.26	6.299	.4298	568.8
72	474.00	.95300	250.00	.7641-01	.9228-01	.1030	59.44	4.542	.486	554.0
72	474.00	1.0000	251.00	.8022-01	.9729-01	.1089	58.24	4.672	.4300	569.0
72	474.00	1.0140	252.00	.6521-01	.791F-01	.8154-01	57.99	3.78F	.4324	572.1

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DATE 24 JAN 76

ARC 3.5-178 IH3

OMS ML 474

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(REIM20)

ARC 3.5-178 IH3 O+T+S

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OMS ML 474

OMS ML 474

(REIM20)

RN/L = 5.000 BETA = .0000 ALPHA = -3.000 ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PS1A	TO DEG. R	HO BTU/LBHM	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
74	5.300	.5051-07 .5n:7-07 .4970-07	406.7 4C6.9 406.9	1295. 1301. 1309.	316.3 317.8 319.8	.1750-01 .1750-01 .1750-01	.8289 .8270 .8241	-3.000 -3.000 .0000
75	5.300							
79	5.300							

\*\*\*TEST DATA\*\*\*

RUN NUMBER	Z	X/L	T/C NO	H/HREF R=1.0	H/HREF R=0.9	GREF R=0.85	QDOT BTU/FT2SEC	HW/HT	HW/HT	HW/HT	DEG. R	STN NO R=0.9
76	4.74, 00	.82900	248.00	.1601	.1946	.2180	.57.95	9.278	.4354	.576.7	.2362-02	
76	4.74, 00	.86200	249.00	.1115	.1352	.1513	.58.63	6.539	.4290	.568.2	.1642-02	
76	4.74, 00	.95300	250.00	.7220-01	.8730-01	.C750-01	.59.37	4.286	.4220	.558.9	.1060-02	
76	4.74, 00	1.0000	251.00	.7600-01	.9209-01	.1030	.58.78	4.467	.4276	.566.3	.1118-02	
76	4.74, 00	1.0140	252.00	.6240-01	.7565-01	.8464-01	.58.61	3.657	.4292	.568.4	.9165-03	

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ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S

L.E. ROLLED DOWN

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(REF 1001)

L.E. ROLLED DOWN

L.E. ROLLED DOWN 30

PARAMETRIC DATA

RN/L = 1.500    BETA = .0000    ALPHA = .0000    ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBH	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
3	5.300	.1491+07	165.6	1581	390.9	.1750-01	.2979	.0000
5	5.300	.1411+07	141.9	1487	366.2	.1750-01	.2656	.0000
9	5.300	.1476+07	122.8	1322	323.2	.1750-01	.2472	.0000
10	5.300	.1451+07	118.8	1307	319.3	.1750-01	.2407	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	ROLL	2Y/B	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HM/HT	HM/HT	TM DEG. R	STN NO R=0.9
3	30.000	.30100	162.00	.5366-01	.6333-01	.6961-01	.53.36	.3453	.562.5	.1378-02	
3	30.000	.34800	163.00	.4646-01	.5484-01	.6027-01	.53.38	.3451	.562.2	.1193-02	
3	30.000	.50000	171.00	.2252	.2662	.2928	.52.89	.11.91	.3508	.571.5	.5788-02
3	30.000	.75000	188.00	.2552	.3014	.3315	.53.08	.13.55	.3485	.567.8	.6555-02
3	30.000	.95000	202.00	.1313	.1552	.1738	.52.79	.6.930	.3520	.573.5	.3375-02

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S

L.E. ROLLED DOWN

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(REF ID: A1)

L.E. ROLLED DOWN

RN/L	MACH	RN/L PER FT	P0 PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
15	5.300	.9972+07	405.4	1305.	318.9	.1750-01	.8223	.0000
16	5.300	.4953+07	406.3	1310.	320.2	.1750-01	.8223	.0000
17	5.300	.5006+07	405.7	1300.	317.6	.1750-01	.8248	.0000
18	5.300	.5098+07	404.9	1284.	313.4	.1750-01	.8294	.0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	P0 PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
15	5.300	.9972+07	405.4	1305.	318.9	.1750-01	.8223	.0000
16	5.300	.4953+07	406.3	1310.	320.2	.1750-01	.8223	.0000
17	5.300	.5006+07	405.7	1300.	317.6	.1750-01	.8248	.0000
18	5.300	.5098+07	404.9	1284.	313.4	.1750-01	.8294	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	ROLL	2Y/B	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HT	HW/HT	HW/HT	HW/HT	STN NO R=0.9
17	30.000	.30100	162.00	.6418-01	.7778-01	.8700-01	58.59	3.760	.4283	567.0	567.0	5456-03	
17	30.000	.34800	163.00	.5951-01	.7210-01	.8064-01	58.67	3.491	.4275	565.9	565.9	.6766-03	
17	30.000	.50000	171.00	.2867	.3492	.3919	57.23	16.41	.4411	584.0	584.0	.4242-02	
17	30.000	.75000	168.00	.2395	.2310	.3261	57.84	13.85	.4353	576.3	576.3	.3536-02	
17	30.000	.95000	202.00	.1209	.1475	.1657	56.83	6.873	.4449	589.0	589.0	.1792-02	

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 0+1+S (TRIPS) L.E. ROLLED OWN 30  
(RE1Q03)

L.E. ROLLED DOWN

	RNL	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.
19	5.300	.1500+07	122.6	1308.	319.5	.1750-01	.2485	.0000	
20	5.300	.1537+07	121.3	1279.	312.1	.1750-01	.2491	.0000	
21	5.300	.1523+07	122.0	1291.	315.3	.1750-01	.2492	.0000	
22	5.300	.1470+07	122.1	1321.	322.9	.1750-01	.2459	.0000	

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.
19	5.300	.1500+07	122.6	1308.	319.5	.1750-01	.2485	.0000
20	5.300	.1537+07	121.3	1279.	312.1	.1750-01	.2491	.0000
21	5.300	.1523+07	122.0	1291.	315.3	.1750-01	.2492	.0000
22	5.300	.1470+07	122.1	1321.	322.9	.1750-01	.2459	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	ROLL	ZY/B	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HT	HW/HT	TH DEG. R	STN NO R=0.9
20	30.000	.30100	162.00	.5586-01	.6769-01	.7570-01	31.49	1.759	.4276	.556.2	.1489-02	
20	30.000	.34800	163.00	.4614-J1	.5591-01	.6252-01	31.50	1.454	.4274	.556.0	.1230-02	
20	30.000	.50000	171.00	.2167	.2633	.2952	31.02	6.721	.4359	567.0	.5789-02	
20	30.000	.75000	188.00	.2487	.3019	.3381	31.21	7.763	.4325	562.6	.6638-02	
20	30.000	.95000	202.00	.1273	.1550	.1739	30.84	3.928	.4391	571.1	.3406-02	

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DATE 24 JAN 76

ARC 3.5-178 JHS

ARC 3.5-178 IH3 O+T+S (TRIPS) L.E. ROLLED D4N 30 (RE 1004)

L.E. ROLLED DOWN

EN/1 5 000 BETA = 0.0080

ELEVON = :0000

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...JUNIOR JOURNAL...

RUN NUMBER	MACH	RNL PER FT	PO PSIA	T0 DEG. R	HO BTU/LBM	RHOMEL FT	SLUG/FT2SEC	ALPHA DEG.
29	5.300	.4977+.07	406.3	1307.	319.2	.1750-.01	.8238	.0000
30	5.300	.5005+.07	406.2	1302.	317.9	.1750-.01	.8254	.0000
31	5.300	.5006+.07	406.4	1302.	318.0	.1750-.01	.8257	.0000
32	5.300	.5039+.07	406.7	1277.	316.8	.1750-.01	.8281	.0000

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\*\*\*TEST DATA\*\*\*

REF/H/REF

	R=1.0	R=0.9	R=0.85	BTU/ FT <sup>2</sup> SEC	BTU/ FT <sup>2</sup> SEC	DEG. R R=0.9
30100	162.00	.6070-01	.7381-01	.8275-01	.507	.579.3 .3968-03
34800	163.25	.5996-01	.7290-01	.8171-01	.460	.578.5 .8857-03
50000	171.00	.2762	.3379	.3803	.18	.52 .4101-02
75000	.98.00	.2257	.2755	.3095	.77	.12.81 .3345-02
95000	202.00	.1216	.1493	.1684	.36	.6.734 .1811-02

R=0.9 R=0.85 R=0.7 R=0.6 R=0.5

881-01 .88275-01 57.78 3.507 4371 579.3

4101-02 : 599.3 : 15.52 : 45522 : 3803 : 56.18 : 179

1630 55.36  
1631 609.7 : 1811-02

DATE 24 JAN 76

ARC 3.5-178 IH3

L.E. ROLLED DOWN

ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S

L.E. ROLLED DOWN

ARC 3.5-178 IH3 O+T+S

RN/L = 5.000    BETA = -5.000    ALPHA = .0000    ELEVON = .0000

L.E. ROLLED DOWN

PAGE 246  
(REF ID: A5)

PARAMETRIC DATA

L.E. ROLLED DOWN 30

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	T0 DEG. R	HO BTU/LBH	RS FT	RHOEL SLUG/FT2SEC	ALPHA DEG.
36	5.300	.5031+07	406.1	1297.	316.8	.1750-01	.8269	.0000
37	5.300	.5149+07	401.9	1270.	309.8	.1750-01	.8285	.0000
38	5.300	.5055+07	406.0	1293.	315.8	.1750-01	.8282	.0000
39	5.300	.5045+07	406.2	1295.	316.3	.1750-01	.8279	.0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	ROLL	2Y/B	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HW/HT	HW/HT	STN NO R=0.9
38	30.000	.30100	162.00	.8384-01	.1017	.1138	.58.01	.4.864	.4305	.566.6
38	30.000	.34800	163.00	.6850-01	.8307-01	.9296-01	.58.08	.3.979	.4299	.565.8
38	30.000	.50000	171.00	.3018-00	.3681	.4136	.56.48	.17.04	.4452	.585.8
3b	30.000	.75000	188.00	.4365	.5315	.5963	.56.98	.24.87	.4403	.579.5
38	30.000	.95000	202.00	.1610	.1964	.2266	.56.45	.9.085	.4455	.586.3

\*\*\*TEST DATA\*\*\*

RUN NUMBER	ROLL	2Y/B	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HW/HT	HW/HT	STN NO R=0.9
38	30.000	.30100	162.00	.8384-01	.1017	.1138	.58.01	.4.864	.4305	.566.6
38	30.000	.34800	163.00	.6850-01	.8307-01	.9296-01	.58.08	.3.979	.4299	.565.8
38	30.000	.50000	171.00	.3018-00	.3681	.4136	.56.48	.17.04	.4452	.585.8
3b	30.000	.75000	188.00	.4365	.5315	.5963	.56.98	.24.87	.4403	.579.5
38	30.000	.95000	202.00	.1610	.1964	.2266	.56.45	.9.085	.4455	.586.3

RUN NUMBER	ROLL	2Y/B	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HW/HT	HW/HT	STN NO R=0.9
38	30.000	.30100	162.00	.8384-01	.1017	.1138	.58.01	.4.864	.4305	.566.6
38	30.000	.34800	163.00	.6850-01	.8307-01	.9296-01	.58.08	.3.979	.4299	.565.8
38	30.000	.50000	171.00	.3018-00	.3681	.4136	.56.48	.17.04	.4452	.585.8
3b	30.000	.75000	188.00	.4365	.5315	.5963	.56.98	.24.87	.4403	.579.5
38	30.000	.95000	202.00	.1610	.1964	.2266	.56.45	.9.085	.4455	.586.3

DATE 24 JAN 76

ARC 3.5-178 IH3

L.E. ROLLED DOWN

ARC 3.5-178 IH3 ORBITER      L.E. ROLLED DNN 30  
PAGE 247  
(RE1006)

RN/L = 1.500    BETA = .0000    ALPHA = .0000    ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HD BTU/ LBH	RS FT	RHOVEL SLUG/ FT SEC	ALPHA DEG.
40	5.300	.1636+07	130.4	1287.	314.1	.1750-01	.2668	.3000
41	5.300	.1582+07	126.6	1290.	315.0	.1750-01	.2586	.0000
42	5.300	.1522+07	122.7	1296.	316.5	.1750-01	.2500	.0100
43	5.300	.1516+07	123.1	1302.	318.5	.1750-01	.2500	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	ROLL	2Y/B	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/ FT SEC	QDOT BTU/ FT SEC	HW/HT	TW DEG. R	STN NO R=0.9
41	30.000	.30100	162.00	.1895-01	.5934-01	.6637-01	.32.43	1.588	.4284	.562.5
41	30.000	.34600	163.00	.5662-01	.6862-01	.7676-01	.32.44	1.637	.4282	.562.1
41	30.000	.50000	171.00	.2708	.3285	.3677	.32.29	8.792	.4309	.565.7
41	30.000	.75000	188.00	.2938	.3561	.3984	.32.43	9.529	.4284	.562.4
41	30.000	.95000	202.00	.1285	.1559	.1745	.32.26	4.146	.4313	.566.2

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ORIGINAL PAGE IS POOR

DATE 24 JAN 76

ARC 3.5-178 IH3

L.E. ROLLED DOWN

PAGE 248

(REF ID: 07)

ARC 3.5-178 IH3

ARC 3.5-178 IH3 ORBITER

L.E. ROLLED DOWN 30

RN/L = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## PARAMETRIC DATA

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PLR FT	PO PSIA	TO DEG. R	HO BTU LBIN	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
44	5.300	.5112+07	406.4	1285.	313.6	.1750-01	.8322	.0000
45	5.300	.5036+07	406.2	1297.	316.7	.1750-01	.8273	.0000
46	5.300	.5003+07	405.9	1301.	317.9	.1750-01	.8248	.0000
47	5.300	.5392+07	404.9	1240.	302.0	.1750-01	.8469	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	ROLL	2Y/B	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU FT2SEC	QDOT BTU FT2SEC	HH/HT	HH/HT	TH DEG. R	TH DEG. R	STN NO R=3.9
46	30.000	.30100	162.00	.4479-01	.5450-01	.6112-01	.57.53	2.577	.4388	.581.3	.6623-03		
46	30.000	.34800	163.00	.4797-01	.5835-01	.6543-01	.57.65	2.765	.4377	.579.9	.7092-03		
46	30.000	.50000	171.00	.2675	.3271	.3681	.56.23	15.04	.4511	.597.6	.3972-02		
46	30.000	.75000	168.00	.3675	.4461	.5032	.56.98	20.94	.4440	.588.2	.5444-02		
46	30.000	.95000	202.00	.1259	.1543	.1739	.55.66	7.008	.4565	.604.8	.1873-02		

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 ORBITER (TRIPS)L.E. ROLLED DWN 30

L.E. ROLLED DOWN

PAGE 249  
(RE10C8)

RN/L = 1.500 BETA = .0000 ALPHA = .0000 ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PS1A	TO DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.
48	5.300	.1533+07	123.1	1293.	315.7	.1750-01	.2511	.0000
49	5.300	.1526+07	122.7	1294.	315.9	.1750-01	.2502	.0000
50	5.300	.1431+07	118.7	1320.	322.6	.1750-01	.2392	.0000
51	5.300	.1495+07	121.6	1304.	318.4	.1750-01	.2469	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	ROLL	2Y/B	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QDOT BTU/ FT2SEC	H/HIT	TW DEG. R	STN NO R=0.9
49	30.000	.30100	162.00	.4729-01	.5739-01	.6425-01	31.83	.4318	.568.6	.1264-02
49	30.000	.34800	163.00	.5428-01	.6587-01	.7375-01	31.83	.4319	.568.7	.1451-02
49	30.000	.50000	171.00	.271.	.3300	.3702	31.37	.4399	.579.3	.7567-02
49	30.000	.75000	188.00	.2900	.3525	.3953	31.56	.4366	.574.9	.7766-02
49	30.000	.95000	202.00	.1233	.1503	.1688	31.16	.4435	.584.0	.3308-02

DATE 24 JAN 76

ARC 3.5-178 1H3

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L.E. ROLLED DOWN

ARC 3.5-178 1H3 OF 1ITER (TRIPS) L.E. ROLLED DHN 30

(RE1009)

PARAMETRIC DATA											
RN/L	=	5.000	BETA	=	.0000	ALPHA	=	.0000	ELEVON	=	.0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOEL SLUG/FT2SEC	ALPHA DEG.
52	5.300	.5053*07	405.5	1292.	315.6	.1750-01	.8274	.0000
53	5.300	.5027*07	406.4	1299.	317.2	.1750-01	.8269	.0000
54	5.300	.5137*07	405.1	1278.	312.0	.1750-01	.8320	.0000
55	5.300	.4987*07	402.9	1298.	317.0	.1750-01	.8201	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	ROLL 2Y/B	T/C NO	H/HREF R=1.0	H/HREF R=0.9	GREF R=0.85	QDOT BTU/FT2SEC	HM/HIT	HM/HIT	TM DEG. R	STN NO R=0.9
54	30.000	.30100	.4470-01	.5440-01	.6102-01	2.519	.4390	.570.7	.6542-03	
54	30.000	.34800	.6398-01	.7782-01	.8726-01	3.612	.4378	.569.2	.9359-03	
54	30.000	.50000	.4134	.5042	.5664	55.74	.4447	.578.2	.6061-02	
54	30.000	.75000	.3708	.4514	.5064	56.22	.4401	.572.2	.5428-02	
54	30.000	.93000	.202.00	.1230	.1501	.1588	.4469	.581.0	.1805-02	

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S

## ORBITER FUSELAGE

64

PAGE 251  
IREIP011

## ORBITER FUSELAGE

		RNL = 1.500	BETA = .0000	ALPHA = .0000	ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RIV/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
3	5.300	.1491+07	165.6	1581.	390.9	.1750-01	.2979	.0000
5	5.300	.1411+07	141.9	1487.	366.2	.1750-01	.2656	.0000
9	5.300	.1476+07	122.8	1322.	323.2	.1750-01	.2472	.0000
10	5.300	.1454+07	118.8	1307.	319.3	.1750-01	.2407	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	X/L	PHI	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	ODOT BTU/FT2SEC	HW/HF	HW/HF	HW/HF	HW/HF	STN NO R=0.9
1	U	.50000-01	00000	7.0000	.4642-01	.5618-01	.6279-01	32.08	1.489	.4247	.565.2	.1267-02
9	U	.50000-01	14.000	90.000	.5136-01	.6197-01	.6911-01	33.54	1.723	.4161	.560.5	.1385-02
9	U	.50000-01	22.000	105.00	.5409-01	.6527-01	.7279-01	33.55	1.815	.4161	.560.4	.1459-02
9	U	.50000-01	35.000	115.00	.7038-01	.8491-01	.9468-01	33.57	2.363	.4156	.559.8	.1898-02
10	U	.50000-01	42.500	127.00	.7284-01	.8819-01	.9858-01	32.04	2.334	.4254	.566.1	.1988-02
10	U	.50000-01	60.000	131.00	.2077-04	.2547-04	.2873-04	30.15	.6263-03	.4583	.609.8	.5733-06
9	U	.50000-01	180.00	51.000	.1066	.1286	.1434	33.58	3.580	.4155	.559.7	.2874-02
9	U	.10000+00	0.0000	12.000	.4419	.5329	.5940	33.66	14.87	.4142	.558.0	.1191-01
9	U	.10000+00	10.000	88.000	.3018	.3640	.4058	33.63	10.15	.4142	.558.5	.8135-02
10	U	.10000+00	20.000	103.00	.1367	.1654	.1848	32.12	4.390	.4240	.564.3	.3730-02
10	U	.10000+00	24.500	106.00	.7127-01	.8623-01	.9633-01	32.15	2.291	.4234	.563.5	.1944-02
9	U	.10000+00	33.000	116.00	.2526-01	.3045-01	.3339-01	33.69	.8509	.4136	.680.6	.680.6-03
10	U	.10000+00	119.00	132.00	.8496-01	.1028	.1148	32.19	2.725	.4227	.562.5	.2317-02
9	U	.10000+00	180.00	63.000	.6228-01	.7509-01	.8371-01	33.67	2.037	.4140	.557.7	.1678-02
10	U	.15000	.00000	17.000	.1548-01	.1872-01	.2092-01	32.16	.4981	.4230	.562.8	.4222-03
10	U	.15000	10.000	89.000	.4309-01	.5213-01	.5825-01	32.13	1.384	.4238	.563.9	.1175-02
9	U	.15000	20.000	104.00	.7491-01	.9035-01	.1007	33.62	2.519	.4148	.558.7	.2019-02
10	U	.15000	25.500	107.00	.9282-01	.1123	.1255	32.13	2.982	.4239	.564.0	.2532-02
9	U	.15000	40.000	111.00	.7473-01	.9008-01	.1004	33.72	2.520	.4132	.556.5	.2014-02
10	U	.15000	45.500	117.00	.6334-01	.7660-01	.8556-01	32.20	2.040	.4225	.562.3	.1727-02
9	U	.15000	180.00	65.000	.1106	.1326	.1489	33.66	3.730	.4142	.557.9	.2986-02
9	U	.20000	.00000	22.000	.6314-01	.7611-01	.8482-01	33.73	2.130	.4130	.556.4	.1701-02
9	U	.20000	11.500	91.000	.250P-01	.3097-01	.3453-01	33.62	.6635	.4148	.558.7	.6923-03
9	U	.20000	24.000	93.000	.2765-01	.3333-01	.3715-01	33.70	.9317	.4135	.557.0	.7450-03



DATE 04 DEC 75

ARC 3.5-178 IH3

## ORBITER FUSELAGE

PAGE 253  
(REF 102)

ORBITER FUSELAGE

ARC 3.5-178 IH3 0+T+S

RN/L = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TC DEG. R	HO BTU/LBM	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
15	5.300	.4972+.07	405.4	1305.	318.9	.1750-.01	.6223	.0000
16	5.300	.4953+.07	406.3	1310.	320.2	.1750-.01	.8223	.0000
17	5.300	.5036+.07	405.7	1300.	317.6	.1750-.01	.8248	.0000
18	5.300	.5098+.07	404.9	1284.	313.4	.1750-.01	.8294	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	X/L	PHI	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HM/HT	HM/HT	TH DEG. R	STN NO R=0.9
16	.500000-01	.00000	7.0000	.4178-01	.5081-01	.5698-01	.58.12	.4377	.584.2	.6200-03	
18	.500000-01	.14.000	90.000	.4376-01	.5322-01	.5357-01	.56.78	.4373	.571.2	.6421-03	
18	.500000-01	.22.000	105.00	.4302-01	.5232-01	.5566-01	.56.77	.4374	.571.4	.6312-03	
18	.500000-01	.35.000	115.00	.6832-01	.8305-01	.5310-01	.56.87	.4385	.570.1	.1002-02	
16	.500000-01	.42.500	127.00	.7076-01	.8608-01	.5652-01	.58.10	.4379	.584.4	.1050-02	
16	.500000-01	.60.000	131.00	.1590	.1933	.2168	.58.13	.4376	.584.0	.2359-02	
18	.500000-01	.180.00	61.000	.1085	.1320	.1480	.56.78	.4373	.571.3	.1592-02	
18	.100000+00	.00000	12.000	.4431	.5387	.6038	.56.87	.4364	.570.0	.6500-02	
18	.100000+00	.10.000	88.000	.2947	.2581	.4013	.56.98	.4354	.568.8	.4321-02	
16	.100000+00	.20.000	103.00	.1117	.1356	.1518	.58.69	.4324	.577.0	.1654-02	
16	.100000+00	.24.500	106.00	.1002	.1215	.1359	.59.00	.4295	.573.2	.1493-02	
18	.100000+00	.39.000	116.00	.6030-01	.7320-01	.6195-01	.57.29	.4324	.564.8	.8833-03	
16	.100000+00	.119.00	132.00	.9122-01	.1106	.1237	.59.02	.4293	.577.0	.1350-02	
18	.100000+00	.180.00	63.000	.7418-01	.9009-01	.1009	.57.14	.4338	.566.6	.1087-02	
16	.150000	.00000	17.000	.2813-01	.3413-01	.3820-01	.58.84	.4310	.575.2	.4166-03	
16	.150000	.10.000	89.000	.5300-01	.6431-01	.7199-01	.58.81	.4313	.575.5	.7850-03	
18	.150000	.20.000	104.00	.7452-01	.9065-01	.1016	.57.07	.4259	.567.5	.1694-02	
16	.150000	.25.500	107.00	.1233	.1495	.1672	.59.11	.4284	.571.8	.1825-02	
18	.150000	.40.000	111.00	.6347-01	.8309-01	.9301-01	.57.38	.4315	.563.7	.1003-02	
16	.150000	.45.500	117.00	.1106	.1340	.1498	.59.25	.4272	.570.1	.1636-02	
18	.150000	.180.00	65.000	.2488	.3022	.3396	.57.10	.4342	.567.2	.3647-02	
18	.200000	.22.000	5938-01	.7208-01	.8071-01	.8616-01	.57.29	.4324	.564.9	.8698-03	
18	.200000	.91.000	2659.31	.3229-01	.3616-01	.57.21	.5.521	.4331	.565.8	.3896-03	
18	.200000	.24.000	93.000	.3506-01	.4250-01	.4755-01	.57.67	.4287	.560.0	.5130-03	

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ARC 3.5-178 IH3 O+I+S

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(RE1P02)

RUN NUMBER	X/L	PHI	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	ORB: IER FUSELAGE	QDC* BTU/FT2SEC	QREF BTU/F2SEC	HW/HT	HW/HT	STN NO R=0.9
16	20030	31.500	108.00	.5704-01	.6908-01	.7723-01	.59.75	3.386	.4261	568.7	571.2	.126-.02
16	.20000	35.000	110.00	.8522-01	.1033	.1155	.59.16	5.042	.4280	571.8	571.5	.1546-.02
16	.20000	40.000	112.00	.1046	.1268	.1419	.59.11	6.185	.4285	571.5	571.5	.1437-.02
16	.20000	51.000	118.00	.1005	.1218	.1362	.59.13	5.942	.4283	571.4	571.4	.2677-.03
16	.20000	67.500	128.00	.1809-01	.2193-01	.2452-01	.59.15	1.070	.4281	564.8	564.8	.3985-.03
16	.20000	96.500	133.00	.2698-01	.3263-01	.3646-01	.59.67	1.610	.4232	563.1	563.1	.1692-.02
18	.20000	180.00	69.000	.1156	.1402	.1570	.57.42	6.637	.4311	566.1	566.1	.1035-.02
18	.30000	26.000	.7063-01	.8577-01	.9606-01	.57.19	4.809	.4333	564.8	564.8	.17-.02	
18	.30000	12.000	92.000	.8394-01	.1019	.1141	.57.29	4.809	.4323	564.2	564.2	.1738-.02
18	.30000	23.000	94.000	.9143-01	.1109	.1241	.57.58	5.265	.4295	564.5	564.5	.1802-.02
16	.30000	34.000	109.00	.1220	.1476	.1649	.59.69	7.283	.4230	566.8	566.8	.1825-.02
16	.30000	40.000	113.00	.1234	.1495	.1671	.59.35	7.327	.4262	569.9	569.9	.1594-.02
16	.30000	45.000	114.00	.1078	.1305	.1460	.59.66	6.386	.4270	568.1	568.1	.6493-.03
16	.30000	57.500	119.00	.4332-01	.5318-01	.5944-01	.59.40	2.609	.4257	567.8	567.8	.5153-.03
16	.30000	61.000	120.00	.4627-01	.4976-01	.5450-01	.59.43	2.393	.4255	564.4	564.4	.4902-.03
16	.30000	65.000	122.00	.3319-01	.4014-01	.4494-01	.59.70	1.981	.4229	569.7	569.7	.2665-.03
16	.30000	70.000	129.00	.1802-01	.2183-01	.2481-01	.59.28	1.068	.4269	561.6	561.6	.5244-.03
18	.30000	106.00	134.00	.3580-01	.4345-01	.4865-01	.57.33	2.052	.4320	572.1	572.1	.5126-.03
16	.30000	135.00	141.00	.3464-01	.4139-01	.4609-01	.59.07	2.046	.4238	559.9	559.9	.9810-.04
18	.30000	180.00	71.000	.6715-02	.8127-02	.9091-02	.57.58	.3867	.4206	566.2	566.2	.1145-.02
18	.40000	30.000	.7817-01	.9492-01	.1063	.1063	.57.18	4.470	.4334	561.6	561.6	.9569-.03
18	.40000	95.000	.6537-01	.7928-01	.8872-01	.8872-01	.57.34	3.762	.4229	561.6	561.6	.5244-.03
18	.40000	21.500	.6537-01	.6537-01	.7928-01	.8872-01	.57.34	3.762	.4229	561.6	561.6	.5244-.03
18	.40000	101.00	135.00	.4261-01	.5170-01	.5738-01	.57.11	2.446	.4312	567.3	567.3	.6240-.03
16	.40000	135.00	142.00	.3704-01	.4486-01	.5017-01	.59.28	2.195	.4268	569.6	569.6	.5477-.02
18	.40000	180.00	72.000	.3072-01	.3725-01	.4168-01	.57.50	1.770	.4294	560.9	560.9	.4496-.03
18	.50000	34.000	.6806-01	.8264-01	.9256-01	.9256-01	.57.19	3.892	.4334	566.1	566.1	.9973-.03
18	.50000	.00000	.6510-01	.7897-01	.8839-01	.8839-01	.57.16	3.741	.4307	562.7	562.7	.9571-.03
16	.50000	105.00	.4473-01	.5408-01	.6039-01	.6039-01	.59.86	2.678	.4214	562.4	562.4	.6605-.03
16	.50000	135.00	143.00	.4020-01	.4870-01	.5445-01	.59.28	2.383	.4268	569.6	569.6	.5946-.03
16	.50000	180.00	73.000	.2825-01	.3417-01	.3817-01	.59.59	1.656	.4231	564.5	564.5	.4177-.02
16	.60000	77.000	130.00	.4366-01	.5284-01	.5904-01	.59.58	2.501	.4235	566.0	566.0	.6452-.03
16	.60000	105.00	137.00	.4257-01	.5147-01	.5749-01	.59.84	2.547	.4216	562.7	562.7	.3216-.03
16	.60000	112.00	147.00	.4444-01	.5024-01	.5622-01	.58.69	2.432	.4293	570.6	570.6	.6225-.03
15	.60000	113.00	146.00	.4397-01	.5332-01	.5966-01	.58.67	2.580	.4296	570.9	570.9	.4500-.03
16	.60000	135.00	144.00	.3398-01	.4115-01	.4599-01	.59.41	2.016	.4257	568.1	568.1	.5024-.03
18	.60000	180.00	74.000	.3422-01	.4150-01	.4845-01	.57.53	1.969	.4208	566.8	566.8	.5009-.03
16	.70000	105.00	138.00	.3664-01	.4675-01	.5223-01	.59.64	2.304	.4235	565.2	565.2	.5708-.03
15	.70000	135.00	145.00	.4257-01	.5347-01	.5952-01	.59.52	1.993	.4246	566.6	566.6	.4947-.03
15	.70000	170.00	75.000	.3780-01	.4570-01	.5103-01	.59.86	2.263	.4214	562.4	562.4	.5581-.03
15	.80000	65.000	123.00	.1975-01	.2388-01	.2666-01	.59.93	1.184	.4208	561.5	561.5	.2916-.03
16	.80000	105.00	139.00	.3933-01	.4636-01	.5179-01	.59.73	2.291	.4227	564.1	564.1	.5662-.03
16	.80000	180.00	76.000	.7207-01	.8719-01	.9740-01	.59.68	4.311	.4231	564.7	564.7	.1065-.02
16	.90000	65.000	124.00	.4020-01	.4854-01	.5435-01	.59.60	2.795	.4239	565.-	565.-	.5939-.03

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ARC 3.5-178 1H3

## ORBITER FUSELAGE

ARC 3.5-178 1H3 O+T+S (TRIPS)

## PARAMETRIC DATA

RUN NUMBER	MACH	CN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.	ELEVON - .0000
19	5.300	1500+07	122.6	1308.	319.5	.750-01	.2485	.0000	
20	5.300	1537+07	121.3	1279.	312.1	.750-01	.2491	.0000	
21	5.300	1523+07	122.0	1291.	315.3	.750-01	.2492	.0000	
22	5.300	1470+07	122.1	1321.	322.9	.750-01	.2459	.0000	

## \*\*\*TEST CONDITIONS\*\*\*

RN/L	- 1.500	BETA - .0000	ALPHA - .0000	ELEVON - .0000
19	1500+07	122.6	1308.	.750-01
20	1537+07	121.3	1279.	.750-01
21	1523+07	122.0	1291.	.750-01
22	1470+07	122.1	1321.	.750-01

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	X/L	PHI	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT <sup>2</sup> SEC	QDOT BTU/FT <sup>2</sup> SEC	HW/HT	TW DEG. R	STN NO R=0.9
21	.50000+01	.00000	7.0000	.3078-01	.3735-01	.4180-01	.31.72	.9766	.4310	.566.3	.8239-03
19	.50000+01	14.000	90.000	.3600-01	.4376-01	.4955-01	.31.96	.1.151	.4359	.580.5	.9707-03
19	.50000+01	22.000	105.00	.4086-01	.4967-01	.5568-01	.31.96	.1.305	.4362	.591.9	.1102-02
19	.50000+01	35.000	115.00	.6930-01	.8485-01	.5101-01	.31.94	.2.229	.4363	.580.9	.1882-02
21	.50000+01	42.500	127.00	.7257-01	.8806-01	.9218-01	.31.69	.2.300	.4315	.567.0	.1943-02
21	.50000+01	50.000	131.00	.1693	.2067	.2124	.30.77	.5.209	.4476	.588.2	.4556-02
19	.50000+01	180.00	61.000	.1083	.1315	.1474	.32.03	.3.468	.4348	.578.9	.2918-02
19	.10000+00	1.0000	12.000	.4576	.5548	.6207	.32.35	.14.80	.4293	.571.6	.1231-01
19	.10000+00	10.000	88.000	.3054	.3705	.4146	.32.28	.9.860	.4304	.573.1	.8220-02
21	.10000+00	20.000	10.000	.1253	.1520	.1701	.1.701	.3.986	.4297	.564.6	.3353-02
21	.10000+00	24.500	101.00	.7413-01	.8988-01	.906	.31.83	.2.359	.4292	.564.0	.1983-02
19	.10000+00	39.000	116.00	.3415-01	.4138-01	.4529-01	.32.44	.1.108	.4277	.569.6	.9184-03
21	.10000+00	119.00	132.00	.8555-01	.1037	.1160	.31.84	.2.724	.4290	.563.7	.2298-02
19	.10000+00	180.00	63.000	.6275-01	.7607-21	.8510-01	.32.37	.2.032	.4289	.571.1	.1688-02
21	.15000	.00000	17.000	.3930-01	.4645-11	.5194-01	.31.85	.1.220	.4288	.563.4	.1024-02
21	.15000	10.000	89.000	.4565-01	.5534-01	.6192-01	.31.83	.1.453	.4292	.563.9	.1221-02
19	.15000	20.000	104.00	.8710-01	.1056	.1181	.32.38	.2.820	.4288	.571.0	.2343-02
21	.15000	25.500	107.00	.1393	.1689	.1890	.31.83	.4.435	.4292	.563.9	.3727-02
19	.15000	40.000	111.00	.709-01	.9356-01	.1044	.32.52	.2.507	.4263	.567.7	.2072-02
21	.15000	45.500	117.00	.6669-01	.8325-01	.9313-01	.31.88	.2.190	.4284	.562.8	.1837-02
9	.15000	130.00	65.000	.1515	.1837	.2054	.32.41	.4.912	.4282	.570.2	.4076-02
19	.20000	.00000	22.000	.6973-01	.8440-01	.9432-01	.32.61	.2.274	.4248	.565.7	.1873-02
19	.20000	11.500	91.000	.4379-01	.5305-01	.5932-01	.31.49	.1.423	.4269	.568.5	.1177-02
19	.20000	.00000	93.000	.3344-01	.4059-01	.4546-01	.32.15	.1.075	.4327	.576.2	.9007-03

## ARC 3.5-178 IH3

RUN NUMBER	X/L	PHI	T/C NO	ARC 3.5-178 IH3 O+T+S (TRIPS)			ORBITER FUSELAGE			MM/HT	TH DEG.	R	S/N NO R=0.9	
				H/HREF R=1.0	H/HREF R=0.9	QREF R=0.85	QREF FT25SEC	QDTU/ BTU/ FT2SEC	QDTU/ BTU/ FT2SEC					
21	.20000	31.500	108.00	.5120-01	.5207-01	.6945-01	31.84	1.630	.4290	563.7	.1369-02			
21	.20000	35.000	110.00	.6844-01	.8298-01	.9285-01	31.81	2.177	.4295	564.4	.1831-02			
21	.20000	40.000	112.00	.8808-01	.1068	.195-01	31.81	2.802	.4295	564.3	.2356-02			
21	.20000	51.000	113.00	.7137-01	.8652-01	.9680-01	31.84	2.272	.4290	563.7	.1909-02			
21	.20000	67.500	128.00	.5513-01	.6683-01	.7475-01	31.87	1.757	.4285	563.0	.1474-02			
21	.20000	96.500	133.00	.7533-01	.9129-01	.1021	31.90	2.403	.4279	562.2	.2014-02			
19	.20000	180.00	69.000	.9023-01	.1093	.1222	32.47	2.930	.4271	568.8	.2426-02			
19	.30000	.00000	.00000	.5393-01	.6526-01	.7732-01	32.64	1.760	.4242	564.3	.1449-02			
19	.30000	12.000	92.000	.6408-01	.7755-01	.8665-01	32.65	2.092	.4241	564.3	.1721-02			
19	.30000	23.000	94.000	.7054-01	.8523-01	.9653-01	32.70	2.307	.4232	563.5	.1894-02			
21	.30000	34.000	109.00	.7965-01	.9653-01	.1080	31.88	2.539	.4283	562.8	.2130-02			
21	.30000	40.000	113.00	.7302-01	.8852-01	.9905-01	31.87	2.328	.4284	562.9	.1953-02			
21	.30000	45.000	114.00	.6925-01	.8394-01	.9390-01	31.86	2.206	.4287	563.2	.1852-02			
21	.30000	57.500	119.00	.2780-01	.3373-01	.3770-01	31.88	.6863	.4284	562.8	.7435-03			
21	.30000	61.000	120.00	.2274-01	.2756-01	.3082-01	.7254	.5625	.6080-03	562.5	.6080-03			
21	.30000	65.000	122.00	.2152-01	.2606-01	.2917-01	31.89	.6865	.4280	562.4	.5755-03			
21	.30000	70.000	129.00	.2235-01	.2708-01	.3039-01	31.88	.7124	.4283	562.7	.5976-03			
19	.30000	106.03	134.00	.1972-01	.2381-01	.2886-01	.3268-01	32.67	.6444	.4237	564.3	.5297-03		
21	.30000	135.00	141.00	.2381-01	.2886-01	.3229-01	31.84	.7580	.4291	563.7	.6368-03			
19	.30000	180.00	71.000	.6583-02	.7963-02	.8895-02	32.64	.2154	.4229	563.1	.1768-03			
19	.40000	.00000	30.000	.4994-01	.6043-01	.6752-01	32.66	1.631	.4240	564.6	.1341-02			
19	.40000	95.000	95.000	.4605-01	.5579-01	.6221-01	32.75	1.508	.4224	562.4	.1236-02			
19	.40000	105.00	135.00	.1973-01	.2276-01	.2665-01	32.76	.6465	.4226	562.2	.5298-03			
21	.40000	135.00	142.00	.8713-02	.1056-01	.1381-01	31.88	.2778	.4282	562.6	.2330-03			
19	.40000	180.00	72.000	.9483-02	.1147-01	.1281-01	32.61	.3113	.4225	561.2	.2547-03			
19	.50000	.00000	34.000	.4349-01	.5442-01	.6262-01	32.66	1.421	.4239	564.5	.1168-02			
19	.50000	21.500	96.000	.4187-01	.5054-01	.5656-01	32.75	1.371	.4224	562.4	.1124-02			
21	.50000	105.00	136.00	.2596-01	.3145-01	.3517-01	31.93	.8290	.4273	561.5	.6939-03			
21	.50000	135.00	143.00	.5295-02	.6418-02	.7180-02	31.87	.1688	.4295	563.0	.1416-03			
21	.50000	180.00	73.000	.1663-01	.2021-01	.2667-01	31.96	.5333	.4269	560.9	.4460-03			
21	.60000	77.000	130.00	.2841-01	.3442-01	.3819-01	31.96	.9081	.4269	560.9	.7594-03			
21	.60000	105.00	137.00	.3053-01	.3629-01	.4137-01	31.93	.9749	.4274	561.6	.8162-03			
22	.60000	112.00	147.00	.3252-01	.3915-01	.4360-01	33.77	.1.098	.4100	551.7	.8774-03			
22	.60000	113.00	146.00	.3447-01	.4150-01	.4622-01	33.76	.1.164	.4102	552.0	.9300-03			
21	.60000	135.00	144.00	.2031-01	.2461-01	.2752-01	31.91	.6481	.4277	562.0	.5429-03			
19	.60000	130.00	74.000	.2388-01	.2987-01	.3224-01	32.78	.7827	.4218	561.7	.6409-03			
21	.60000	105.00	138.00	.2579-01	.3115-01	.3495-01	31.91	.8229	.4278	562.1	.6895-03			
21	.60000	135.00	145.00	.3367-01	.3367-01	.3766-01	31.93	.8874	.4274	561.6	.7430-03			
21	.70000	180.00	75.000	.2911-01	.3526-01	.3942-01	31.99	.9312	.4264	560.3	.7780-03			
21	.80000	65.000	123.00	.1585-01	.1919-01	.2145-01	32.01	.5072	.4261	559.8	.4235-03			
21	.10000	105.00	139.00	.2557-01	.3098-01	.3465-01	31.95	.6170	.4271	561.2	.6836-03			
21	.80000	180.00	76.000	.4013-01	.4861-01	.5434-01	32.00	.784	.4262	560.0	.1073-02			
21	.90000	65.000	124.00	.3211-01	.3830-01	.4350-01	31.95	.1.026	.4271	561.2	.8583-03			

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S (TRIPS)

## ORBITER FUSELAGE

RN/L	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT <sup>2</sup> SEC	ALPHA DEG.	PARAMETRIC DATA
29	5.300	.4977+07	406.3	1307.	319.2	1750-01	.8238	.0000	
30	5.300	.5036+07	406.2	1302.	317.9	1750-01	.8254	.0000	
31	5.300	.5065+07	406.4	1302.	318.0	1750-01	.8257	.0000	
32	5.300	.5039+07	406.7	1297.	316.8	1750-01	.8281	.0000	

## \*\*\*TEST CONDITIONS\*\*\*

RN/L	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT <sup>2</sup> SEC	ALPHA DEG.
29	5.300	.4977+07	406.3	1307.	319.2	1750-01	.8238	.0000
30	5.300	.5036+07	406.2	1302.	317.9	1750-01	.8254	.0000
31	5.300	.5065+07	406.4	1302.	318.0	1750-01	.8257	.0000
32	5.300	.5039+07	406.7	1297.	316.8	1750-01	.8281	.0000

## \*\*\*TEST DATA\*\*\*

RN/L	X/L	PHI	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/ F <sup>2</sup> SEC	QDT BTU/ F <sup>2</sup> SEC	HW/HT	TW DEG. R	STN NO R=0.9
30	-50000-01	.00000	7.0000	.3034-01	.3701-01	.1159-01	.56.87	1.726	.4454	.590.2
32	.50000-01	.14.000	90.000	.3611-01	.4426-01	.4598-01	.55.51	2.004	.4567	.602.9
32	.50000-01	.22.000	105.000	.4033-01	.4943-01	.5571-01	.55.52	2.239	.4566	.599.6
32	.50000-01	.35.000	115.000	.6555-01	.8025-01	.9038-01	.55.77	3.656	.4541	.599.6
30	.50000-01	.42.500	127.000	.7012-01	.8557-01	.9615-01	.56.82	3.984	.4459	.590.8
30	.50000-01	.60.000	131.000	.1148	.1400	.1573	.56.88	6.528	.4453	.590.1
32	.50000-01	.180.000	61.000	.1547	.1281	.1443	.55.83	5.845	.4536	.598.8
32	.10000+00	.00000	12.000	.49491	.5491	.6179	.56.10	25.20	.4510	.595.4
32	.10000+00	.10.000	88.000	.3050	.3730	.4199	.56.00	17.08	.4520	.596.7
30	.10000+00	.20.000	103.00	.1230	.1498	.1681	.57.43	7.066	.4401	.583.1
30	.10000+00	.24.500	106.00	.2757-01	.1186	.1329	.57.87	5.647	.4359	.577.6
32	.10000+00	.39.000	116.00	.579-01	.5583-01	.6271-01	.56.83	2.602	.4441	.6762-03
30	.16000+00	.119.00	132.00	.8437-01	.1026	.1150	.57.83	4.679	.4363	.578.2
32	.10000+00	.180.00	63.000	.5945-01	.7252-01	.8147-01	.56.73	3.373	.4450	.587.5
30	.15000	.00000	17.000	.4737-01	.5759-01	.6455-01	.57.80	2.738	.4366	.578.6
30	.15000	.10.000	89.000	.7142-01	.6698-01	.9740-01	.57.69	4.120	.4377	.579.9
32	.15000	.20.000	104.00	.1110	.1336	.1525	.56.26	6.242	.4495	.593.5
30	.15000	.25.500	107.00	.1776	.2158	.2418	.57.99	10.30	.4348	.576.1
32	.15000	.40.000	111.00	.1008	.1229	.1380	.56.87	5.733	.4437	.585.8
30	.45.500	.117.00	120.4	.1463	.1643	.1649	.58.06	6.593	.4341	.575.2
32	.15000	.180.00	65.000	.2583	.3152	.3542	.56.60	14.62	.4463	.589.2
32	.20000	.00000	22.000	.8150-01	.9932-01	.1115	.56.98	4.643	.4427	.584.5
32	.20000	.11.500	91.000	.5094-01	.6203-01	.6969-01	.56.70	2.883	.4453	.588.0
32	.20000	.24.000	93.000	.4254-01	.5183-01	.5818-01	.57.05	2.427	.4420	.583.6

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(RE 1P04)

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ARC 3.5-178 IH3

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(REF 104)

RUN NUMBER	X/L	PHI	T/C NO	H/HREF R=1.0	H/HREF R=0.9	ARC 3.5-178 IH3 O+T+S (TRIPS)	ORBITER FUSELAGE	STN NO R=0.9
30	-20000	31.500	108.00	.6341-01	.7699-01	.2622-01	58.17	.9357-03
30	-20000	35.000	110.00	.8901-01	.1082	.1212	57.93	.1314-02
30	-20000	40.000	112.00	.1008	.1347	.1509	57.90	.1636-02
30	-20000	51.000	118.00	.1009	.1226	.1374	57.95	.4357
30	-20000	67.500	128.00	.9812-01	.1192	.1335	58.04	.4352
30	-20000	96.500	133.00	.1098	.1332	.1491	58.04	.4339
32	-20000	180.00	69.000	.1326	.1616	.1814	57.03	.4306
32	-30000	.00000	26.000	.7156-01	.8718-01	.9786-01	57.06	.4422
32	-30000	12.000	92.000	.8788-01	.1034	.1161	57.10	.4419
32	-30000	23.000	94.000	.9467-01	.1152	.1291	57.45	.4382
30	-30000	34.000	109.00	.1215	.1474	.1650	58.49	.4300
30	-30000	40.000	113.00	.1220	.1480	.1658	58.26	.4323
30	-30000	45.000	114.00	.1279	.1261	.1413	58.18	.4330
30	-30000	57.500	119.00	.4926-01	.5979-01	.6694-01	58.28	.4321
30	-30000	61.000	120.00	.4175-01	.5066-01	.5672-01	58.31	.4315
30	-30000	65.000	122.00	.3695-01	.4480-01	.5013-01	58.52	.4298
30	-30000	70.000	129.00	.3813-01	.4628-01	.5182-01	58.26	.4323
32	-30000	105.00	134.00	.3330-01	.4052-01	.4545-01	57.40	.4387
32	-30000	135.00	141.00	.3116-01	.4430-01	.5031-01	58.03	.4344
32	-30000	180.00	71.000	.1204-01	.1464-01	.1641-01	57.69	.4359
32	-40000	.00000	20.000	.7047-01	.8583-01	.9632-01	57.15	.4027
32	-40000	21.500	95.000	.5847-01	.7108-01	.7968-01	57.62	.4360
32	-40000	105.00	135.00	.3972-01	.4829-01	.5113-01	57.62	.4366
30	-40000	135.00	142.00	.3934-01	.4774-01	.5345-01	58.30	.4293
32	-40000	180.00	72.000	.3979-01	.4786-01	.5261-01	57.84	.4279
32	-50000	.00000	34.000	.5581-01	.6796-01	.7626-01	57.19	.4010
32	-50000	21.500	96.000	.5677-01	.6902-01	.7737-01	57.63	.4365
30	-50000	105.00	136.00	.4084-01	.4948-01	.5535-01	58.72	.4279
30	-50000	135.00	143.00	.4136-01	.5020-01	.5620-01	58.33	.4316
30	-50000	180.00	73.000	.2658-01	.3222-01	.3604-01	58.62	.4289
30	-60000	77.000	130.00	.4271-01	.5178-01	.5794-01	58.57	.4293
30	-60000	105.00	137.00	.3300-01	.3999-01	.4472-01	58.72	.4279
29	-60000	112.00	147.00	.3732-01	.4551-01	.5094-01	58.65	.4309
29	-60000	113.00	146.00	.4072-01	.4945-01	.5536-01	58.62	.4312
30	-60000	135.00	144.00	.3494-01	.4238-01	.4743-01	58.47	.4293
32	-60000	180.00	74.000	.3216-01	.3544-01	.4119-01	57.76	.4353
30	-70000	105.00	138.00	.2801-01	.3403-01	.3807-01	58.62	.4289
30	-70000	125.00	145.00	.3002-01	.3640-01	.4072-01	58.59	.4292
30	-70000	180.00	75.000	.3718-01	.4504-01	.5037-01	58.80	.4272
30	-80000	E5.000	123.00	.1768-01	.2142-01	.2396-01	58.79	.4040
30	-80000	105.00	139.00	.3106-01	.4066-01	.4481-01	58.75	.4273
30	-80000	160.00	76.000	.6918-01	.8381-01	.9373-01	58.77	.4066
30	-90000	65.000	124.00	.363-3-01	.4636-01	.5188-01	58.53	.4297

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

DATE : JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S

ORBITER FUSELAGE

ORBITER FUSELAGE

PARAMETRIC DATA

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(RE)P05)

RN/L	MACH	RN/L PER FT	PO PSIA	T0 DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.
36	5.300	.5031+.07	406.	1297.	316.8	.1750-.01	.8269	.0000
37	5.300	.5149+.07	401.9	1270.	309.8	.1750-.01	.8285	.0000
38	5.300	.5055+.07	406.0	1293.	315.8	.1750-.01	.8282	.0000
39	5.300	.5045+.07	406.2	1295.	316.3	.1750-.01	.8279	.0000

\*\*\* TEST CONDITIONS \*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	T0 DEG. R	HO BTU/ LBH	RS FT	RHOEL SLUG/ FT2SEC	ALPHA DEG.
36	5.300	.5031+.07	406.	1297.	316.8	.1750-.01	.8269	.0000
37	5.300	.5149+.07	401.9	1270.	309.8	.1750-.01	.8285	.0000
38	5.300	.5055+.07	406.0	1293.	315.8	.1750-.01	.8282	.0000
39	5.300	.5045+.07	406.2	1295.	316.3	.1750-.01	.8279	.0000

\*\*\* TEST DATA \*\*\*

RUN NUMBER	X/L	PHI	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HT	HW/HT	HW/HT	HW/HT	TW DEC. R	STN NO R=0.9
37	.50000-01	00000	7.0000	.5811-01	.7124-01	.8031-01	53.83	3.128	.4574	.590.7	.8557-03			
39	.50000-01	14.000	90.000	.4997-01	.6106-01	.6868-01	56.16	2.805	.4492	.592.1	.7390-03			
39	.50000-01	22.000	105.00	.6113-01	.7469-01	.8400-01	56.16	3.433	.4492	.592.2	.9040-03			
39	.50000-01	35.000	115.00	.8886-01	.1085	.1220	56.32	5.005	.4477	.590.1	.1313-02			
37	.50000-01	42.500	127.00	.1016	.1247	.1407	53.51	5.435	.4605	.594.7	.1497-02			
37	.50000-01	60.500	131.00	.1416	.1726	.1950	53.66	7.600	.4591	.592.9	.2087-02			
39	.50000-01	18.000	61.000	.1072	.1308	.1471	56.44	6.055	.4465	.588.6	.1584-02			
39	.10000+00	12.000	12.000	.4883	.5954	.6687	56.71	27.69	.4440	.585.2	.7208-02			
39	.10000+00	28.000	28.000	.2172	.2650	.2978	56.55	12.28	.4455	.587.2	.3208-02			
37	.10000+00	10.000	10.000	.1297	.1556	.1784	54.48	7.065	.4510	.592.4	.1905-02			
37	.10000+00	20.000	20.000	.1039	.1237	.1496	54.86	4.775	.4473	.577.6	.1277-02			
37	.10000+00	24.500	106.00	.8703-01	.1063	.1194	54.86	2.756	.4384	.577.9	.7087-03			
39	.10000+00	39.000	116.00	.4810-01	.5852-01	.6662-01	57.30	55.27	.4433	.572.4	.1515-02			
37	.10000+00	119.00	132.00	.1039	.1260	.1415	57.15	3.938	.4398	.579.7	.1016-02			
39	.10000+00	829.00	63.000	.6891-01	.8389-01	.9411-01	57.15	4.296	.4428	.571.8	.1124-02			
37	.15000	15.000	17.000	.7679-01	.9353-01	.1050	55.32	5.882	.4463	.576.3	.1570-02			
37	.15000	15.000	89.000	.1076	.1306	.1468	54.97	5.882	.4427	.583.5	.2221-02			
39	.15000	20.000	104.00	.1505	.1834	.2059	56.84	8.556	.4444	.573.8	.1648-02			
37	.15000	25.500	107.00	.1125	.1321	.1540	55.16	6.203	.4383	.577.7	.7735-03			
39	.15000	45.000	111.00	.5233-01	.6337-01	.7163-01	57.31	3.009	.4399	.598.1	.4669-03			
37	.15000	45.000	117.00	.3100-01	.3581-01	.4557-01	55.62	1.774	.4407	.580.9	.2649-02			
39	.15000	180.00	65.000	.1796	.2187	.2455	57.06	10.25	.4367	.575.6	.1299-02			
39	.20000	22.000	881.00	.072	.1202	.1777	57.48	5.353	.4391	.578.8	.1379-02			
39	.20000	91.000	.9353-01	.38	.1277	.1777	57.23	6.128	.4364	.575.2	.1569-02			
39	.20000	93.000	.1066	.95	.1452	.1452	57.51							

## ORBITER FUSELAGE

Run#	X/L	PH#	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	ARC 3.5-178 IH3 O+T+S	QREF BTU/ FT2SEC	ODOT BTU/ FT2SEC	MM/HHT	MM/HHT	STN NO R=0.9
37	20000	31.500	106.00	1272	1548	1736	55.67	7.079	.4394	567.4	563.5	1861-02
37	20000	35.000	110.00	1240	1511	1695	55.50	6.885	.4410	569.4	563.5	1816-02
37	20000	40.000	112.00	1317	1603	1799	55.51	7.309	.4409	569.4	563.5	1928-02
37	20000	51.000	118.00	2654-01	3230-01	3624-01	55.70	1.479	.4391	567.0	563.5	3884-03
37	20000	67.500	128.00	3283-01	3990-01	4472-01	56.03	1.839	.4359	562.8	562.8	4798-03
37	20000	96.500	133.00	4297-01	5217-01	5845-01	56.33	2.421	.4329	559.0	559.0	6275-03
39	20000	180.00	69.000	1122	1364	1529	57.50	6.453	.4365	575.4	575.4	1653-02
39	20000	100000	26.000	6426-01	7812-01	8756-01	57.53	3.697	.4362	575.0	575.0	9462-03
39	20000	12.000	92.000	7756-01	9427-01	1057	57.55	4.463	.4360	574.7	574.7	1142-02
39	20000	23.000	94.000	9158-01	1112	1246	57.82	5.295	.4334	571.3	571.3	1347-02
37	30000	34.000	109.00	1083	1313	1469	56.72	6.144	.4291	554.1	554.1	1580-02
37	30000	40.000	113.00	1140	1384	1549	56.49	6.442	.4314	557.1	557.1	1664-02
37	30000	45.000	114.00	9707-01	1179	1319	56.40	5.475	.4323	558.2	558.2	1417-02
37	30000	57.502	119.00	9381-01	1138	1273	56.60	5.309	.4304	555.7	555.7	1369-02
37	30000	61.000	120.00	1213	1472	1647	56.63	6.872	.4301	555.3	555.3	1770-02
37	30000	65.000	122.00	1067	1293	1447	56.79	6.058	.4285	553.3	553.3	1556-02
37	30000	70.000	129.00	6534-01	8047-01	9005-01	56.58	3.753	.4306	556.0	556.0	9680-03
37	30000	106.00	134.00	6511-01	7908-01	8858-01	57.76	3.761	.4340	572.0	572.0	9579-03
39	30000	135.00	141.00	4997-01	6374-01	6807-01	56.01	2.799	.4361	563.1	563.1	7304-03
39	30000	180.00	71.000	2464-01	2996-01	3354-01	58.05	1.433	.4312	568.4	568.4	3630-03
39	40000	30.000	8213-01	9983-01	1119	57.56	4.728	.4285	574.5	574.5	1209-02	
39	40000	21.500	95.000	6405-01	7773-01	8703-01	57.96	3.712	.4321	569.5	569.5	9417-03
39	40000	105.00	135.00	6557-01	8080-01	9046-01	57.98	3.860	.4319	569.3	569.3	9789-03
37	40000	125.00	142.00	4941-01	5994-01	6708-01	56.58	2.795	.4305	555.9	555.9	7210-03
39	40000	180.00	72.000	4625-01	5610-01	6279-01	58.15	2.66	.4303	567.2	567.2	6797-03
39	50000	34.000	5865-01	7128-01	7989-01	57.57	3.376	.4358	574.5	574.5	8634-03	
39	50000	21.500	96.000	6030-01	7319-01	8195-01	57.97	3.496	.4320	569.5	569.5	8867-03
37	50000	105.00	136.00	6545-01	7929-01	8857-01	57.12	3.739	.4253	549.1	549.1	9535-03
37	50000	135.00	143.00	5159-01	6257-01	7003-01	56.62	2.92	.4301	555.1	555.1	7527-03
37	50000	180.00	73.000	5084-01	7371-01	4178-01	56.93	1.756	.4287	551.1	551.1	4426-03
37	60000	77.000	130.00	6334-01	7671-01	8177-01	56.19	3.610	.4265	550.7	550.7	9230-03
37	60000	105.00	157.00	7500-01	1101-01	1116-01	57.12	4.202	.4212	549.1	549.1	1071-02
36	60000	112.00	147.00	6503-01	7920-01	8809-01	57.09	3.712	.4253	549.1	549.1	9602-03
36	60000	113.00	146.00	6149-01	7490-01	8406-01	57.07	3.509	.4416	583.1	583.1	9080-03
37	60000	135.00	144.00	4472-01	5921-01	6065-01	56.77	2.539	.4287	553.6	553.6	6522-03
39	60000	100.00	74.000	2913-01	3534-01	3936-01	58.08	1.692	.4310	568.1	568.1	4282-03
37	70000	105.00	138.00	6818-01	8459-01	9235-01	56.96	3.883	.4268	551.2	551.2	9937-03
37	70000	135.00	145.00	3660-01	4455-01	4960-01	56.86	2.081	.4277	552.4	552.4	5335-03
37	70000	180.00	75.000	2998-01	3509-01	3922-01	57.06	1.653	.4259	549.9	549.9	4222-03
37	80000	65.000	123.00	2539-01	3074-01	3435-01	57.12	1.450	.4252	549.1	549.1	3698-03
37	80000	105.00	139.00	5738-01	6950-01	7771-01	56.99	3.270	.4265	550.8	550.8	8362-03
37	80000	180.00	76.000	6237-01	7554-01	8445-01	57.02	3.556	.4262	550.4	550.4	9089-03
37	90000	65.000	124.00	5842-01	7089-01	7918-01	56.85	3.321	.4279	552.6	552.6	8518-03

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ARC 3.5-178 1H3

## ORBITER FUSELAGE

ORBITER FUSELAGE		ARC 3.5-178 1H3 ORBITER		ORBITER FUSELAGE	
		RN/L	=	1.500	BETA = .0000
		RN/L PER FT		PO PSIA	TO DEG. R
40	5.300	.163E-07	130.4	1287.	314.1
41	5.300	.15E2+07	126.6	1290.	315.0
42	5.300	.15E2+07	122.7	1296.	316.5
43	5.300	.151E+07	123.1	13C2.	318.0

## \*\*\*TEST CONDITIONS\*\*\*

	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBH	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
40	5.300	.163E-07	130.4	1287.	314.1	.1750-01	.2668	.0000
41	5.300	.15E2+07	126.6	1290.	315.0	.1750-01	.2586	.0000
42	5.300	.15E2+07	122.7	1296.	316.5	.1750-01	.2500	.0000
43	5.300	.151E+07	123.1	13C2.	318.0	.1750-01	.2500	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	X/L	PHI	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW:HT	TW	STN NO R=0.9
42	.50000-01	.00000	7.0000	.4813-01	.5827-01	.5514-01	32.26	1.553	.4256	561.5	.1285-02
40	.50000-01	.14.000	90.000	.6663-01	.8133-01	.9143-01	31.72	2.113	.4470	585.2	.1730-02
40	.50000-01	.22.000	105.00	.6974-01	.8467-01	.9519-01	31.68	2.197	.4477	586.1	.1801-02
40	.50000-01	.35.000	115.00	.7461-01	.9110-01	.1024	31.70	2.365	.4474	585.7	.1939-02
42	.50000-01	.42.500	127.00	.7319-01	.8892-01	.9307-01	32.25	2.360	.4259	561.8	.1955-02
42	.50000-01	.65.000	131.00	.6752-02	.8385-02	.9538-02	28.75	1.194	.4864	641.8	.1844-03
40	.50000-01	.180.00	61.000	.1103	.13-6	.15-2	31.80	3.509	.4457	583.4	.2864-02
40	.1C000+00	.00000	.1974-01	.2-20	.26-4-01	.32-22	.6339	.5112	.4386	574.2	.1718-02
40	.1C000+00	.10.000	.2580-01	.3143-01	.3527-01	.32.06	.8273	.4412	.577.6	.6689-03	
42	.10000-00	.20.000	.3138-01	.3798-01	.4245-01	.32.32	.014	.4247	.560.3	.8380-03	
42	.10000-00	.24.500	.4201-01	.5085-01	.5682-01	.32.33	1.358	.4244	.559.9	.1122-02	
40	.10000-00	.39.000	.6465-01	.6663-01	.6349-01	.32.27	1.502	.4378	.573.1	.1205-02	
42	.10000-00	.119.00	.132.00	.8448-01	.1023	.1143	32.3	2.730	.4248	560.4	.2256-02
40	.10000-00	.180.00	.63.000	.6633-01	.8074-01	.9057-01	32.16	2.133	.4396	575.5	.1718-02
42	.15000	.00000	.17.000	.1132-01	.1370-01	.1531-01	32.35	.3663	.4242	559.6	.3023-03
42	.15000	.10.000	.89.000	.1949-01	.2359-01	.2636-01	32.31	.6298	.4247	560.3	.5204-03
40	.15000	.20.000	.104.00	.974-01	.2403-01	.2696-01	32.14	.6344	.4399	.575.9	.5114-03
42	.15000	.25.500	.107.00	.2589-01	.3134-01	.3512-01	32.32	.8468	.4246	560.1	.6913-03
40	.15000	.40.000	.111.00	.3066-01	.3728-01	.4180-01	32.30	.9902	.4372	.572.4	.7937-03
42	.15000	.45.500	.117.00	.3062-01	.3706-01	.4141-01	32.35	.9906	.4241	.559.6	.6175-03
40	.15000	.180.00	.65.000	.1143	.1391	.1560	32.16	3.675	.4396	.575.4	.2960-02
40	.20000	.00300	.22.000	.8102-02	.934-02	.1102-01	32.48	.2632	.4341	.568.3	.2095-03
40	.20000	.11.500	.91.000	.1285-01	.1F5-2-01	.1751-01	32.33	.4154	.4367	.571.7	.3326-03
40	.20000	.24.000	.93.000	.1501-01	.1825-01	.2046-01	32.35	.4857	.4364	.571.3	.3886-03

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## ARC 3.5-178 IH3

RUN NUMBER	X/L	PHI	T/C NO	ARC 3.5-178 IH3 ORBITER		ORBITER FUSelage		QDOT BTU/SEC	QREF BTU/SEC	H/W/Ht	TW DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	H/HREF R=0.85					
42	.200000	31.500	108.00	.2096-01	.1882-01	.2278-01	.2546-01	32.31	6773	.4248	560.4	.5026-03
42	.200000	35.000	110.00	.2538-01	.2836-01	.32.30	.6082			.4249	560.6	.5598-03
42	.200000	40.000	112.00	.2503-01	.3386-01	.32.31	.8085			.4249	560.5	.6683-03
42	.200000	51.000	118.00	.2248-01	.2720-01	.3040-01	.32.35	.7272		.4249	559.5	.6001-03
42	.200000	67.500	128.00	.1926-01	.24.15-01	.2698-01	.32.38	.6964		.4235	558.7	.5328-03
42	.200000	96.500	133.00	.1504-01	.1820-01	.2034-01	.32.39	.4871		.4237	558.9	.4016-03
40	.200000	180.00	69.000	.8580-01	.1044-01	.1107-01	.1177-01	.27.77	.770	.4376	.572.8	.2221-02
40	.300000	100.000	56.320	.4324-02	.5250-02	.5879-02	.592.56	.1408	.4329	.566.7	.1118-03	
43	.300000	12.000	92.000	.6371-02	.6428-02	.9438-02	.32.55	.2259		.4331	567.0	.1794-03
40	.300000	23.000	94.000	.1021-01	.1239-01	.1388-01	.32.58	.3326		.4325	566.2	.2639-03
42	.300000	34.000	109.00	.1548-01	.1874-01	.2094-01	.32.30	.5001		.4249	560.5	.4134-03
42	.300000	45.000	113.00	.1752-01	.2118-01	.2368-01	.32.29	.5650		.4252	560.9	.4675-03
42	.300000	45.000	114.00	.2164-01	.2620-01	.2929-01	.32.28	.6985		.4254	561.2	.5780-03
42	.300000	57.500	119.00	.1025-01	.1240-01	.1386-01	.32.35	.3315		.4241	559.5	.2736-03
42	.300000	61.500	120.00	.5649-02	.6836-02	.7638-02	.32.37	.1828		.4238	559.1	.1508-03
42	.300000	65.000	122.00	.5629-02	.6690-02	.74.75-02	.32.36	.1769		.4239	559.2	.1476-03
42	.300000	70.000	129.00	.6317-02	.7645-02	.8542-02	.32.35	.2043		.4241	559.6	.1687-03
40	.300000	106.00	134.00	.2748-01	.3339-01	.3789-01	.32.61	.9094		.4320	565.5	.7206-03
42	.300000	135.00	141.00	.2075-01	.2511-01	.2805-01	.32.32	.6706		.4246	560.2	.5540-03
40	.300000	186.00	71.000	.3464-02	.4205-02	.4710-02	.32.55	.1127		.4330	566.9	.8954-04
40	.400000	.00000	30.000	.3895-02	.4728-02	.5294-02	.32.59	.1269		.4323	566.0	.1007-03
40	.400000	21.500	95.000	.1092-01	.1325-01	.1483-01	.32.64	.3563		.4315	565.0	.2821-03
40	.400000	105.00	135.00	.3040-01	.3687-01	.4126-01	.32.72	.9947		.4320	563.0	.7851-03
42	.400000	125.00	142.00	.1305-01	.1575-01	.1765-01	.32.32	.6218		.4246	560.1	.3484-03
43	.400000	180.00	72.000	.6911-02	.8396-02	.9387-02	.32.65	.2257		.4313	564.6	.1786-03
40	.500000	.00000	34.000	.4938-02	.5994-02	.6711-02	.32.59	.1609		.4323	565.9	.1276-03
40	.500000	21.500	96.000	.1340-01	.1626-01	.1820-01	.32.67	.4378		.4310	564.2	.3462-03
42	.500000	105.00	135.00	.2033-01	.2459-01	.2749-01	.32.38	.6581		.4236	558.9	.5426-03
42	.500000	125.00	142.00	.3164-02	.3829-02	.4280-02	.32.32	.023		.4246	560.2	.8448-04
42	.500000	186.00	72.000	.1522-01	.1842-01	.2058-01	.32.37	.9227		.4238	559.2	.4064-03
42	.600000	77.000	101.00	.3265-01	.3950-01	.4415-01	.32.37	.1.057		.4238	553.1	.6715-03
42	.600000	105.00	137.00	.2414-01	.2921-01	.3264-01	.32.38	.7818		.4236	558.8	.6445-03
43	.600000	115.00	147.00	.2015-01	.2436-01	.2741-01	.32.71	.6593		.4213	558.3	.5384-03
42	.600000	113.00	146.00	.2078-01	.2512-01	.2806-01	.32.70	.6796		.4215	558.5	.5562-03
42	.600000	135.00	144.00	.7331-02	.8873-02	.9915-02	.32.34	.2371		.4244	559.8	.1957-03
40	.600000	180.00	74.000	.2898-01	.3516-01	.3936-01	.32.65	.9462		.4313	564.6	.7487-03
42	.700000	105.00	138.00	.3498-01	.4232-01	.4729-01	.32.37	.1.132		.4238	559.1	.9337-03
42	.700000	135.00	145.00	.1436-01	.1738-01	.1942-01	.32.35	.4647		.4240	559.4	.3835-03
43	.600000	113.00	146.00	.2078-01	.2512-01	.2806-01	.32.70	.6796		.4215	558.5	.2838-03
42	.600000	135.00	144.00	.7331-02	.8873-02	.9915-02	.32.34	.2371		.4244	559.1	.3953-03
42	.800000	105.00	139.00	.3618-01	.4377-01	.4690-01	.32.38	.1.172		.4238	558.8	.9657-03
42	.800000	180.00	76.000	.3969-01	.4802-01	.5364-01	.32.39	.1.285		.4235	558.7	.1059-02
42	.800000	65.0000	124.00	.4163-01	.5039-01	.5632-01	.32.31	.1.345		.4247	560.3	.1112-02

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## ORBITER FUSELAGE

RN/L = 5.000 BETA = .0000 ALPHA = .0000 ELEVON = .0000

## ARC 3.5-178 IH3 ORBITER

PARAMETRIC DATA

## ORBITER FUSELAGE

PARAMETRIC DATA

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HC BTU/LBMIN	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
44	5.300	.5112-07	406.4	1285.297.	313.6	.1750-01	.8322	.0000
45	5.300	.5036-07	406.2	1301.316.7	316.7	.1750-01	.8273	.0000
46	5.300	.5003-07	405.9	1240.317.9	302.0	.1750-01	.8248	.0000
47	5.300	.5392-07	404.9				.8469	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	X/L	PHI	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT2SEC	QDQT BTU/FT2SEC	HW/HIT	HW DEG. R	TW DEG. R	STN NC R=0.9
45	.50000-01	.00000	7.0000	.4620-01	.5640-01	.6309	.4470	.589.9	.6833-03	.9281-03	
47	.50000-01	.14.000	.90.000	.6413-01	.7881-01	.8899-01	.52.05	.3.338	.4629	.582.7	.9790-03
47	.50000-01	.22.000	.105.00	.6765-01	.6313-01	.9387-01	.52.05	.3.521	.4630	.582.9	.1039-02
47	.50000-01	.35.000	.115.00	.7183-01	.8823-01	.9960-01	.52.15	.3.746	.4620	.581.5	.1076-02
45	.50000-01	.42.500	.127.00	.7276-01	.8886-01	.9391-01	.56.36	.4.101	.4480	.591.2	.2050-02
45	.50000-01	.60.000	.131.00	.1384	.1693	.1905	.55.82	.7.723	.4531	.598.0	
47	.50000-01	.68.000	.161.00	.1052	.1293	.1439	.52.05	.5.475	.4629	.582.7	.1522-02
47	.10000+00	.00000	.12.000	.1901-01	.2332-01	.2629-01	.52.51	.9982	.4584	.577.0	.2747-03
47	.10000+00	.10.000	.88.000	.2615-01	.3208-01	.4618-01	.52.45	.1.372	.4590	.577.9	.3779-03
45	.10000+00	.20.000	.103.00	.3106-01	.3786-01	.4253-01	.56.79	.1.754	.4439	.585.8	.4588-03
45	.10000+00	.24.500	.106.00	.4167-01	.5074-01	.5694-01	.57.13	.2.381	.4406	.581.5	.6149-03
47	.10.000+00	.39.000	.116.00	.4281-01	.5368-01	.6019-01	.52.75	.2.311	.4560	.574.0	.63.1+03
45	.10000+00	.119.00	.132.00	.8525-01	.1038	.1164	.57.24	.4.880	.4396	.580.2	.1258-02
47	.10000+00	.180.00	.63.000	.6279-01	.7701-01	.8689-01	.52.43	.3.293	.4591	.577.9	.9075-03
45	.15.000	.00000	.17.000	.1087-01	.1323-01	.1484-01	.57.21	.62.18	.4399	.580.6	.1603-03
45	.15.000	.10.000	.89.000	.2023-01	.2465-01	.2767-01	.56.96	.1.152	.4423	.583.7	.2987-03
47	.15.000	.20.000	.104.00	.2086-01	.2560-01	.2888-01	.52.40	.1.093	.4595	.578.4	.3015-03
45	.15.000	.25.000	.107.00	.2484-01	.3024-01	.3393-01	.57.18	.1.420	.4402	.580.9	.3665-03
47	.15.000	.40.000	.111.00	.2958-01	.3574-01	.4142-01	.52.65	.1.578	.4570	.575.2	.4329-03
45	.15.000	.45.500	.117.00	.2969-01	.3633-01	.4072-01	.57.61	.1.722	.4361	.575.6	.4404-03
47	.15.000	.65.000	.180.00	.1762	.2163	.2440	.52.36	.9.228	.4599	.578.9	.2548-02
47	.20.000	.00000	.22.000	.8075-02	.9394-02	.1115-01	.52.74	.4.2558	.4561	.574.1	.1166-03
47	.20.000	.11.500	.91.000	.1319-01	.1617-01	.1823-01	.52.59	.6.6356	.4575	.575.9	.1905-03
	.24.000	.93.000	.1459-01	.1787-01	.2014-01	.52.75	.7.694	.4560		.573.9	.2105-03

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RJN NUMBER	X/L	PHI	T/C NO	ARC 3.5-178 IH3 ORBITER	ORBITER FUSELAGE	QREF R=0.85	QDOT BTU/ FT2SEC	MM/H	TW DEG. R	STN NO R=0.9	
45	20000	31.500	108.00	1889-01	2298-01	2578-01	57.32	4389	579.2	2786-03	
45	.200-.3	35.000	110.00	.2212-01	.2692-01	.3021-01	57.21	4399	580.5	.3263-03	
45	.200.00	40.000	112.00	.2526-01	.3074-01	.3448-01	57.27	4394	579.8	.3725-03	
45	.201.00	51.000	118.00	.2372-01	.2884-01	.3233-01	57.52	4370	576.7	.3495-03	
45	.200.00	67.500	128.00	.2148-01	.2609-01	.2923-01	57.77	4341	573.5	.3163-03	
45	.20000	96.500	133.00	.2614-01	.3173-01	.3553-01	57.99	4325	570.7	.3847-03	
47	.2000	180.00	.1189	.1456	.1641	.1641	52.77	4558	573.7	.1715-02	
47	.30000	26.000	.6594-02	.8204-02	.9248-02	.9248-02	52.67	4567	576.9	.9566-04	
47	.30000	92.000	.9460-02	.1159-01	.1306-01	.1306-01	52.73	4988	4561	.1366-03	
47	.30000	12.000	.94.000	.1266-01	.1550-01	.1746-01	52.89	6696	4545	.1826-03	
45	.30000	23.000	109.00	.1696-01	.2061-01	.2509-01	57.76	4376	573.7	.2498-03	
45	.30000	34.000	40.000	.113.00	.1972-01	.2398-01	.2687-01	57.60	4362	575.7	.2906-03
45	.30000	45.000	45.000	.114.00	.2262-01	.2751-01	.3083-01	57.57	4365	576.1	.3334-03
45	.30000	57.500	119.00	.1943-01	.2359-01	.2642-01	.57.93	4330	571.5	.2860-03	
45	.30000	61.000	120.00	.7318-02	.8884-02	.9949-02	57.97	4242	4327	.107.03	
45	.30000	65.000	122.00	.7973-02	.9675-02	.1083-01	58.09	4631	4316	.669.6	
45	.30000	70.000	.129.00	.9844-02	.1195-01	.1339-01	.57.90	5700	.4334	.1449-03	
47	.30000	106.00	134.00	.3045-01	.3728-01	.4200-01	.52.89	1.611	4545	572.1	
45	.30000	135.00	141.00	.3154-01	.3635-01	.4300-01	.57.49	1.813	4572	577.0	
47	.30000	180.00	71.000	.2831-02	.3463-02	.3899-02	.53.1C	1.503	4544	.4649-03	
47	.40000	.00000	20.000	.1535-01	.2257-01	.2257-01	.52.71	.2616	.4563	.4081-04	
47	.40000	95.000	.3244-01	.3969-01	.4468-01	.53.07	1.722	.4527	.2360	.2360-03	
47	.40000	21.500	.135.00	.3842-01	.4701-01	.5692-01	.53.08	2.039	.4526	.4677-03	
47	.40000	105.00	142.00	.2787-01	.3386-01	.3794-01	.57.74	1.609	4349	.5539-03	
45	.40000	135.00	.72.000	.2591-01	.3170-01	.3568-01	.53.16	1.378	4518	.4105-03	
47	.40000	160.00	34.000	.2763-01	.3385-01	.3815-01	.52.75	1.458	4559	.3735-03	
47	.50000	.00000	.96.000	.3980-01	.4869-01	.5481-01	.53.11	2.113	.4524	.569.4	
47	.50000	21.500	.136.00	.3689-01	.4473-01	.5005-01	.58.31	2.151	.4295	.566.8	
45	.50000	105.00	143.00	.3946-01	.4795-01	.5372-01	.57.73	2.278	.4350	.571.9	
45	.50000	135.00	.180.00	.3881-01	.4710-01	.5274-01	.58.03	2.252	.4320	.570.3	
45	.50000	60.000	.73.000	.3486-01	.4230-01	.4735-01	.58.10	2.025	.4314	.5128-03	
45	.60000	77.000	130.00	.3564-01	.4323-01	.4837-01	.58.27	2.077	.4298	.567.2	
45	.60000	105.00	.137.00	.4046-01	.4914-01	.5505-01	.57.26	2.317	.4340	.567.3	
44	.60000	112.00	.147.00	.4046-01	.4946-01	.6101-01	.57.23	2.566	.4343	.567.7	
44	.60000	113.00	.146.00	.3946-01	.4795-01	.4795-01	.57.73	2.034	.4335	.572.1	
45	.60000	135.00	.144.00	.3514-01	.4267-01	.4779-01	.57.89	2.010	.4520	.569.0	
47	.60000	180.00	.74.000	.3783-01	.4627-01	.5209-01	.53.14	1.878	.4312	.539.1	
45	.70000	105.00	.138.00	.3230-01	.3919-01	.4.0-01	.58.13	2.010	.4323	.570.5	
45	.70000	135.00	.145.00	.3465-01	.4206-01	.4710-01	.58.01	2.010	.4340	.5100-03	
45	.70000	75.000	.180.00	.3888-01	.4716-01	.5279-01	.58.17	2.261	.4308	.568.5	
45	.80000	65.000	.123.00	.1976-01	.2397-01	.2683-01	.58.19	1.150	.4306	.568.3	
45	.80000	105.00	.139.00	.4282-01	.5194-01	.5813-01	.58.20	2.492	.4305	.6298-03	
45	.80000	180.00	.76.000	.5663-01	.6870-01	.7690-01	.58.14	3.293	.4310	.568.8	
45	.90000	65.000	.124.00	.3473-01	.4216-01	.4721-01	.57.96	2.013	.4328	.5111-03	

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ARC 3.5-178 1H3

ARC 3.5-178 1H3 ORBITER (TRIPS)ORBITER FUSelage

## ORBITER FUSELAGE

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(REF 108)

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	R <sub>A</sub> FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.	ELEVON - .0000
48	5.300	.1533+07	123.1	1293.	315.7	.1750-01	.2511	.0000	
49	5.300	.1526+07	122.7	1294.	315.9	.1750-01	.2502	.0000	
50	5.300	.1431+07	118.7	1320.	322.6	.1750-01	.2392	.0000	
51	5.300	.1495+07	121.6	1304.	318.4	.1750-01	.2469	.0000	

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	X/L	PHI	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF FT2SEC	QDOT FT2SEC	HW/HF
50	.50000-01	.00000	7.0000	.5057-01	.6084-01	.6771-01	33.43	1.691	.4073
48	.50000-01	.14.000	90.000	.6688-01	.8164-01	.9177-01	30.99	2.072	.4468
48	.50000-01	.22.000	105.00	.8565-01	.9523-01			2.172	.4472
48	.50000-01	.35.000	115.00	.7395-01	.9016-01	.1014	30.96	2.286	.4473
50	.50000-01	.42.500	127.00	.7690-01	.9253-01	.1030	33.38	2.567	.4080
50	.50000-01	.60.000	131.00	.1685	.2054	.2306	31.36	5.284	.4428
48	.50000-01	.180.00	61.000	.1112	.1356	.1524	31.06	3.453	.455
48	.10000+00	.00000	12.000	.2044-01	.2496-01	.2787-01	31.54	.6447	.4372
48	.10000+00	.10.000	88.000	.2611-01	.3178-01	.3565-01	31.41	.8202	.4395
50	.10000+00	.20.000	103.00	.3303-01	.3972-01	.419-01	33.49	1.106	.4062
50	.10000+00	.24.500	106.00	.5307-01	.5303-01	.5897-01	33.49	1.476	.4062
48	.10000+00	.39.000	116.00	.4666-01	.5673-01	.6358-01	31.60	1.475	.4362
50	.10000+00	.119.00	132.00	.8748-01	.1052	.1171	33.46	2.927	.4057
48	.10000+00	.180.00	63.000	.6751-01	.8213-01	.9210-01	31.48	2.125	.4382
50	.15000	.00000	17.000	.14.34-01	.1723-01	.1917-01	31.54	.4809	.4052
50	.15000	.10.000	89.000	.2548-01	.3163-01	.3908-01	33.51	.8539	.4058
48	.15000	.20.000	104.00	.2266-01	.2757-01	.3021-01	31.49	.7136	.4381
50	.15000	.25.500	107.00	.4393-01	.5283-01	.5877-01	33.50	1.472	.4060
48	.15000	.40.000	111.00	.4824-01	.5862-01	.6569-01	31.65	1.527	.4353
50	.15000	.45.500	117.00	.4602-01	.5132-01	.6154-01	33.54	1.544	.4053
48	.15000	.65.000	180.00	.1529	.1650	.2086	31.50	4.816	.4380
48	.20000	.22.000	91.000	.1290-01	.1566-01	.1754-01	31.83	.4108	.4321
48	.20000	.1.500	20.000	.2028-01	.2464-01	.2761-01	31.68	.6426	.4343
48	.20000	.93.000	2.000	.2650-01	.3219-01	.3607-01	31.67	.8392	.572.0

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	R <sub>A</sub> FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.	ELEVON - .0000	STN NO R=0.9
50	.50000-01	.00000	7.0000	.5057-01	.6084-01	.6771-01	33.43	1.691	.4073	.547.5
48	.50000-01	.14.000	90.000	.6688-01	.8164-01	.9177-01	30.99	2.072	.4468	.587.9
48	.50000-01	.22.000	105.00	.7395-01	.9016-01	.1014	30.96	2.286	.4472	.588.3
48	.50000-01	.35.000	115.00	.7951-01	.9516-01	.1030	33.38	2.567	.4473	.588.5
50	.50000-01	.42.500	127.00	.7690-01	.9253-01	.1030	33.38	2.567	.4080	.548.5
50	.50000-01	.60.000	131.00	.1685	.2054	.2306	31.36	5.284	.4428	.595.3
48	.50000-01	.180.00	61.000	.1112	.1356	.1524	31.06	3.453	.455	.586.1
48	.10000+00	.00000	12.000	.2044-01	.2496-01	.2787-01	31.54	.6447	.4372	.575.3
48	.10000+00	.10.000	88.000	.2611-01	.3178-01	.3565-01	31.41	.8202	.4395	.578.2
50	.10000+00	.20.000	103.00	.3303-01	.3972-01	.419-01	33.49	1.106	.4062	.546.0
50	.10000+00	.24.500	106.00	.5307-01	.5303-01	.5897-01	33.49	1.476	.4062	.546.1
48	.10000+00	.39.000	116.00	.4666-01	.5673-01	.6358-01	31.60	1.475	.4362	.573.9
50	.10000+00	.119.00	132.00	.8748-01	.1052	.1171	33.46	2.927	.4057	.546.8
48	.10000+00	.180.00	63.000	.6751-01	.8213-01	.9210-01	31.48	2.125	.4382	.576.6
50	.15000	.00000	17.000	.14.34-01	.1723-01	.1917-01	31.54	.4809	.4052	.544.8
50	.15000	.10.000	89.000	.2548-01	.3163-01	.3908-01	33.51	.8539	.4058	.545.5
48	.15000	.20.000	104.00	.2266-01	.2757-01	.3021-01	31.49	.7136	.4381	.576.3
50	.15000	.25.500	107.00	.4393-01	.5283-01	.5877-01	33.50	1.472	.4060	.545.9
48	.15000	.40.000	111.00	.4824-01	.5862-01	.6569-01	31.65	1.527	.4353	.572.7
50	.15000	.45.500	117.00	.4602-01	.5132-01	.6154-01	33.54	1.544	.4053	.544.8
48	.15000	.65.000	180.00	.1529	.1650	.2086	31.50	4.816	.4380	.576.3
48	.20000	.22.000	91.000	.1290-01	.1566-01	.1754-01	31.83	.4108	.4321	.568.5
48	.20000	.1.500	20.000	.2028-01	.2464-01	.2761-01	31.68	.6426	.4343	.572.0
48	.20000	.93.000	2.000	.2650-01	.3219-01	.3607-01	31.67	.8392	.572.2	.7077-03

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## ARC 3.5-178 IH3 ORBITER (TRIPS) ORBITER FUSELAGE

(RE1P0B)

RUN NUMBER	X/L	PHI	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	GREF FT2SEC	QDOT BTU/FT2SEC	HW/HIT	HW/HIT	TW DEG. R	STN NO R=0.9	
50	.200000	31.500	108.00	.2713-01	.3263-01	.3631-01	33.48	.9084	.4063	.546	.3	.7413-03	
50	.200000	35.000	110.00	.2805-01	.3373-01	.3754-01	33.47	.9386	.4066	.546	.6	.7663-03	
50	.200000	40.0000	112.00	.3204-01	.3853-01	.4287-01	33.47	1.072	.4065	.546	.5	.6753-03	
50	.200000	51.000	118.00	.5335-01	.6535-01	.7271-01	33.51	1.821	.4059	.545	.7	.1485-02	
50	.200000	67.500	128.00	.4756-01	.5717-01	.6359-01	33.55	1.595	.4051	.544	.6	.1299-02	
50	.200000	50	96.500	133.00	.7265-01	.8734-01	.9716-01	33.54	2.437	.4054	.545	.0	.984-02
48	.200000	180.00	69.00	.8639-01	.1050-01	.1177-01	31.61	2.731	.4360	.573	.6	.2308-02	
48	.300000	12.000	26.00	.1311-01	.1590-01	.1779-01	31.95	.4188	.4302	.566	.0	.3496-03	
48	.300000	23.000	92.00	.1109-01	.1345-01	.1505-01	31.94	.354	.4304	.566	.2	.2957-03	
48	.300000	34.000	23.000	.1462-01	.1462-01	.1637-01	31.97	.3855	.4299	.565	.5	.3216-03	
50	.300000	50	300000	.109.00	.2001-01	.2406-01	.2677-01	33.49	6.700	.4062	.546	.0	.5466-03
50	.300000	40.0000	113.00	.2452-01	.2949-01	.3281-01	33.47	.3207	.4065	.546	.5	.6700-03	
50	.300000	45.0000	114.00	.2621-01	.3303-01	.3776-01	33.46	.9439	.4067	.546	.8	.7708-03	
50	.300000	57.500	119.00	.1995-01	.2398-01	.2668-01	33.53	.6690	.4051	.5449	.0	.5449-03	
50	.300000	61.000	120.00	.2142-01	.2575-01	.2865-01	33.54	.7187	.4052	.544	.8	.5852-03	
50	.300000	65.000	122.00	.2176-01	.2615-01	.2909-01	33.55	.7299	.1.052	.544	.7	.5942-03	
50	.300000	70.000	129.00	.2318-01	.2787-01	.3100-01	33.53	.7774	.4054	.545	.0	.6332-03	
48	.300000	106.00	134.00	.1843-01	.2236-01	.2502-01	31.97	.5893	.4299	.565	.5	.4916-11	
50	.300000	135.00	141.00	.2203-01	.2650-01	.2948-01	33.48	.7376	.4061	.546	.4	.6020-03	
48	.300000	180.00	71.00	.4001-02	.4854-02	.5432-02	31.92	.1277	.4307	.566	.6	.1067-03	
48	.400000	.060000	30.000	.1551-01	.1881-01	.2105-01	31.96	.4939	.4299	.565	.6	.4137-03	
48	.400000	95.000	.95.000	.1768-01	.1855-01	.1855-01	32.03	.4382	.4288	.564	.1	.3647-03	
48	.400000	105.00	135.00	.1503-01	.2313-01	.2586-01	32.09	.6126	.4276	.562	.6	.5086-03	
50	.400000	135.00	142.00	.1204-01	.1568-01	.1744-01	33.49	.4367	.4061	.546	.0	.3562-03	
48	.400000	80.00	72.000	.6993-02	.8476-02	.9482-02	32.04	.2241	.4285	.563	.7	.1864-03	
48	.500000	.00000	34.000	.1500-01	.1819-01	.2035-01	31.98	.4796	.4297	.565	.3	.4000-03	
48	.500000	21.500	.96.000	.2074-01	.2514-01	.2812-01	32.05	.6649	.4284	.563	.6	.5528-03	
50	.510000	105.00	136.00	.1332-01	.1602-01	.1781-01	33.56	.4472	.4049	.544	.3	.3639-03	
50	.510000	135.00	143.00	.5138-02	.6178-02	.6874-02	33.49	.1721	.4061	.545	.9	.4104-03	
50	.510000	160.00	73.00	.1452-01	.1746-01	.1942-01	33.57	.4875	.4049	.544	.3	.3966-03	
50	.600000	77.000	130.00	.2229-01	.2679-01	.2980-01	33.57	.7485	.4047	.544	.1	.6066-03	
50	.600000	105.00	137.00	.2102-01	.2527-01	.2811-01	33.57	.7057	.4048	.544	.2	.5741-03	
50	.600000	112.00	147.00	.1795-01	.2164-01	.2412-01	33.02	.5926	.4284	.544	.7	.4453-03	
51	.600000	113.00	146.00	.1734-01	.2091-01	.2330-01	33.02	.5725	.4136	.548	.9	.4815-03	
50	.600000	135.00	144.00	.6241-02	.7504-02	.8349-02	33.51	.2092	.4057	.545	.5	.4653-03	
48	.600000	180.00	74.00	.2899-01	.3514-01	.3932-01	32.03	.9288	.4287	.564	.0	.1705-03	
50	.700000	105.00	139.00	.2703-01	.3250-01	.3615-01	33.56	.9072	.4050	.544	.5	.7728-03	
50	.700000	135.00	145.00	.1631-01	.1960-01	.2180-01	33.55	.5470	.4052	.544	.7	.4453-03	
51	.600000	75.000	.3255-01	.3922-01	.4655-01	.5358	1.097	.4046	.543	.9	.8916-03		
50	.800000	65.000	123.00	.1164-01	.1399-01	.1556-01	33.56	.3907	.4049	.544	.4	.3179-03	
50	.800000	105.00	139.00	.3116-01	.3737-01	.4157-01	33.58	1.044	.4046	.543	.9	.8492-03	
50	.800000	180.00	76.00	.3992-01	.4797-01	.5335-01	33.60	1.341	.4043	.543	.5	.1090-02	
50	.900000	65.000	124.00	.3253-01	.3365-01	.4411-01	33.5	1.105	.4058	.545	.6	.9008-03	

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ARC 3-5-178 IH3 ORBITER (TRIM) ORBITER FUSELAGE

## ORBITER FUSELAGE

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## PARAMETRIC DATA

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	H2 BTU/LBH	RS FT	RHOEL SLUG/FT SEC	ALPHA DEG.
52	5.300	.5053+07	405.5	1292.	315.6	.1750-01	.8274	.0000
53	5.300	.5027+07	406.4	1299.	317.2	.1750-01	.8269	.0000
54	5.300	.5137+07	405.1	1278.	312.0	.1750-01	.8320	.0000
55	5.300	.4987+07	402.9	1298.	317.0	.1750-01	.8201	.0000

## TEST CONDITIONS

RN/L	= 3.000	BETA = .0000	ALPHA = .0000	ELEVON = .0000

## TEST DATA

RUN NUMBER	X/L	T/C NO	PHI	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT SEC	Q00T BTU/FT SEC	HW/HF	HW/HF	TW DEG. R	TW DEG. R	STN NO R=0.9
53	.50000-01	00000	7.0000	.4657-01	.5590-01	.6400-01	56.33	2.623	.4493	.593.9	.6897-03		
55	.50000-01	14.000	90.000	.6506-01	.8041-01	.9041-01	54.40	3.539	.4651	614.4	.9729-03		
55	.50000-01	22.000	105.00	.6778-01	.8337-01	.9121-01	54.37	3.685	.4654	614.8	.1014-02		
55	.50000-01	35.000	115.00	.7397-01	.9093-01	.1027	54.53	4.033	.4639	612.8	.1106-02		
53	.50000-01	42.500	127.00	.7353-01	.8291-01	.1012	56.15	4.129	.4509	596.0	.1090-02		
53	.50000-01	60.000	131.00	.1136	.1388	.1562	56.19	6.380	.4506	595.6	.1683-02		
55	.50000-01	180.00	61.000	.1126	.1382	.1560	54.79	6.167	.4614	609.6	.1681-02		
55	.10000+00	12.000	.1887-01	.2308-01	.2598-01	.2598-01	55.73	1.053	.4518	596.9	.2609-03		
55	.10000+00	10.000	88.000	.2439-01	.2987-01	.3364-01	55.49	1.354	.4547	600.7	.3634-03		
55	.10000+00	20.000	103.00	.3795-01	.3776-01	.4243-01	56.69	1.755	.4558	589.2	.4578-03		
53	.10000+00	24.500	106.00	.4131-01	.5035-01	.5652-01	57.04	2.356	.4425	584.9	.6105-03		
55	.10000+00	39.000	116.00	.4408-01	.5380-01	.6046-01	56.36	2.484	.4464	589.8	.6548-03		
53	.10000+00	119.00	132.00	.8925-01	.1087	.1219	57.28	5.112	.4402	581.9	.13-8-02		
55	.10000+00	180.00	63.000	.7195-01	.8795-01	.9895-01	55.97	4.027	.4501	594.7	.1070-02		
53	.15000	0.0000	17.000	.2271-01	.2765-01	.3103-01	57.30	1.301	.4401	581.7	.3354-03		
53	.15000	10.000	89.000	.5312-01	.6474-01	.7270-01	56.98	3.026	.431	585.7	.7850-03		
55	.15000	20.000	104.00	.4352-01	.5338-01	.6011-01	55.56	2.428	.4531	598.6	.6496-03		
53	.15000	25.500	107.00	.7554-01	.9199-01	.1032	57.23	4.323	.4407	582.6	.1116-02		
55	.15000	40.000	111.00	.8427-01	.1017	.1143	56.37	4.698	.4403	589.7	.1278-02		
53	.15000	45.500	117.00	.7015-01	.9132-01	.1041	57.76	4.416	.4357	575.9	.1117-02		
55	.15000	180.00	65.000	.2534-	.3098	.3486	55.91	14.17	.4507	595.4	.3770-02		
55	.20000	0.0000	22.000	.3974-01	.4845-01	.5441-01	56.63	2.250	.4438	586.3	.5698-03		
55	.20000	11.500	91.000	.5606-01	.6844-01	.7693-01	56.28	3.155	.4471	590.7	.8330-03		
55	.20000	24.000	93.000	.6114-01	.7170-01	.8531-01	56.43	3.432	.4457	588.9	.9130-03		

## ARC 3.5-178 IH3

RUN NUMBER	X/L	PHI	T/C NO	ARC 3.5-178 IH3 ORBITER (TRIPS)ORBITER FUSelage		H/HREF R=0.9	H/HREF R=0.85	QREF/ BTU/ FT2SEC	QDOT/ BTU/ FT2SEC	HH/HT	TW DEG. R	STN NO R=0.9
				H/HREF R=1.0	H/HREF R=0.9							
53	.20000	31.500	108.00	.6828-01	.8310-01	.9321-01	.57.39	3.918	.4392	580.6	.1008-02	
53	.20000	35.000	110.00	.6557-01	.7584-01	.8959-01	.57.26	3.754	.4405	582.2	.9682-03	
53	.20000	40.000	112.00	.6942-01	.8050-01	.9479-01	.57.35	3.981	.4396	581.3	.1025-02	
53	.20000	51.000	118.00	.9135-01	.1111	.1245	.57.54	5.265	.4368	577.4	.1347-02	
53	.20000	67.500	128.00	.9872-01	.1199	.1343	.57.96	5.722	.4338	573.4	.1455-02	
53	.20000	96.500	133.00	.1023	.1242	.1391	.58.03	5.937	.4331	572.5	.1507-02	
53	.20000	180.00	69.000	.1204	.1463	.1648	.56.64	6.819	.4437	586.7	.1787-02	
53	.00000	26.000	.3568-01	.4345-01	.4875-01	.56.99	2.034	.4404	.581.8	.5290-03		
53	.00000	92.000	.4568-01	.5566-01	.6237-01	.57.10	2.608	.4324	.580.5	.6770-03		
53	.30000	12.000	.94.000	.4772-01	.5801-01	.6502-01	.57.40	2.739	.4365	576.7	.7065-03	
53	.30000	23.000	.50000	.5413-01	.6573-01	.7362-01	.58.00	3.139	.4354	572.9	.7974-03	
53	.30000	34.000	.109.00	.5038-01	.6121-01	.6859-01	.57.83	2.913	.4351	575.1	.7426-03	
53	.30000	45.000	.113.00	.3998-01	.4859-01	.5445-01	.57.78	2.310	.4355	575.6	.5894-03	
53	.30000	57.500	.114.00	.3166-01	.3866-01	.4328-01	.58.20	1.854	.4315	570.4	.4C90-03	
53	.30000	61.000	.119.00	.3576-01	.4346-01	.5176-01	.58.23	2.048	.4313	570.3	.5117-03	
53	.30000	65.000	.122.00	.3583-01	.4348-01	.4863-01	.58.32	2.089	.4304	568.9	.5273-03	
53	.30000	70.000	.129.00	.3979-01	.4829-01	.5406-01	.58.17	2.315	.4318	570.8	.5859-03	
53	.30000	106.00	.131.00	.3255-01	.3995-01	.4431-01	.57.59	1.875	.4347	574.2	.4917-03	
53	.30000	135.00	.141.00	.3427-01	.4167-01	.4672-01	.57.62	1.975	.4370	577.6	.5055-03	
53	.30000	180.00	.71.000	.5771-02	.7012-02	.7855-02	.57.56	3.324	.4347	574.3	.8540-04	
53	.40000	30.000	.35.000	.3533-01	.4372-01	.4904-01	.57.13	2.052	.4391	580.1	.5224-03	
53	.40000	95.000	.21.500	.4137-01	.5022-01	.5624-01	.57.78	2.390	.4325	571.9	.6118-03	
53	.40000	105.00	.135.00	.3632-01	.4090-01	.4932-01	.57.99	2.105	.4311	569.5	.5358-03	
53	.40000	135.00	.142.00	.3053-01	.3708-01	.4153-01	.57.99	1.771	.4335	573.0	.4499-03	
53	.40000	180.00	.72.000	.3526-01	.4248-01	.4788-01	.57.96	2.043	.4312	569.7	.5211-03	
53	.50000	.00900	.34.000	.3062-01	.3725-01	.4177-01	.57.22	1.722	.4382	579.0	.4536-03	
53	.50000	21.500	.96.000	.4019-01	.4377-01	.4960-01	.57.90	2.327	.4317	570.3	.5941-03	
53	.50000	105.00	.136.00	.3375-01	.4090-01	.4575-01	.58.54	1.976	.4283	566.1	.4963-03	
53	.50000	135.00	.143.00	.5991-01	.6484-01	.5428-01	.58.01	2.315	.4333	572.8	.5879-03	
53	.50000	180.00	.73.000	.3800-01	.4610-01	.5160-01	.58.28	2.215	.4307	569.3	.5594-03	
53	.50000	77.000	.130.00	.2661-01	.3227-01	.4610-01	.58.45	1.556	.4291	577.2	.3915-03	
53	.50000	157.00	.147.00	.3257-01	.3947-01	.4415-01	.58.54	1.907	.4283	562.9	.5331-03	
52	.60100	112.00	.146.00	.3632-01	.4401-01	.4823-01	.58.19	2.113	.4284	563.4	.6020-03	
52	.60000	113.00	.144.00	.4101-01	.4979-01	.5560-01	.58.16	2.385	.4284	567.2	.5836-03	
53	.50000	135.00	.144.00	.3594-01	.4332-01	.4828-01	.58.19	2.069	.4316	571.5	.2532-03	
53	.60000	180.00	.74.000	.3927-01	.4766-01	.5335-01	.57.93	2.275	.4275	571.0	.5806-03	
53	.60000	165.00	.145.00	.3932-01	.4592-01	.5362-01	.58.40	1.716	.4297	567.9	.4323-03	
53	.70000	135.00	.145.00	.3433-01	.4163-01	.4615-01	.58.33	2.002	.4302	568.7	.5052-03	
53	.70000	180.00	.75.000	.3937-01	.4609-01	.5331-01	.58.45	2.319	.4291	567.2	.5836-03	
53	.80000	65.000	.125.00	.1721-01	.2086-01	.2334-01	.58.48	1.007	.4288	566.8	.2532-03	
53	.80000	105.00	.139.00	.3946-01	.4784-01	.5353-01	.58.45	2.307	.4291	567.2	.5806-03	
53	.80000	180.00	.76.000	.5919-01	.7164-01	.8016-01	.58.41	3.451	.4295	567.7	.8694-03	
53	.90000	65.000	.124.00	.3270-01	.2695-01	.3661-01	.58.22	1.569	.4313	570.1	.3968-03	

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ARC 3.5-178 IH3

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ORBITER FUSELAGE

ARC 3.5-178 IH3 O+T+S

ORBITER FUSELAGE

RNL = 5.001 BETA = .0000 ALPHA = -5.000 ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RNL PER FT	PO SIA	TO DEG. R	HC BTU/LBM	RS FT	RHOEL SLUG/FT2SEC	ALPHA DEG.
70	5.300	.4905+.07	407.3	1320.	322.8	.1750-.01	.8205	-5.000
71	5.300	.5001+.07	406.8	1303.	318.4	.1750-.01	.8258	-5.000
72	5.300	.4987+.07	403.9	1300.	317.5	.1750-.01	.8213	-5.000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	X/L	PHI	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	QOTBTU/FT2SEC	HW/HIT	TW DEG. R	STN NO R=0.9
71	.500000-01	.00000	7.0000	.4478-01	.5454-01	.6122-01	57.44	2.572	.4413	.585.5	.6627-03
70	.500000-01	.14.000	90.000	.6191-01	.7985-01	.8359-01	60.40	2.739	.4217	.567.2	.9175-03
70	.500000-01	.22.000	105.00	.6645-01	.8031-01	.6971-01	60.43	4.016	.4214	.566.8	.9848-03
70	.500000-01	.35.000	115.00	.7916-01	.9560-01	.1067	60.73	4.807	.4186	.563.1	.1172-02
71	.500000-01	.42.500	127.00	.8868-01	.1058	.1187	57.55	4.999	.4402	.584.1	.1285-02
71	.500000-01	.60.000	131.00	.1539	.1873	.2101	57.65	8.871	.4393	.582.9	.2276-02
71	.500000-01	.180.00	61.00	.1494	.1805	.2014	60.66	9.051	.4193	.564.1	.2212-02
70	.100000+00	.00000	12.00	.2401	.2901	.3239	60.58	14.55	.4203	.564.9	.3557-02
70	.100000+00	.10.000	88.00	.1764	.2131	.2379	60.67	10.70	.4192	.563.9	.2613-02
71	.100000+00	.20.000	103.00	.1074	.1306	.1464	57.95	6.225	.4364	.579.1	.1587-02
71	.100000+00	.24.500	106.00	.7220-01	.8762-01	.9309-01	58.44	4.219	.4318	.573.0	.1065-02
70	.100000+00	.39.00	115.00	.3468-01	.4180-01	.4659-01	61.35	2.128	.4129	.555.4	.5127-03
71	.100000+00	.119.00	132.00	.1551	.1882	.2105	58.57	9.086	.4306	.571.4	.2288-02
70	.100000+00	.63.00	1156	.1394	.1553	.1621	7.073	4.142	.557.2	.1709-02	
71	.150000	.00000	17.00	.4851-01	.5691-01	.6599-01	58.23	2.825	.4338	.575.6	.7161-03
71	.150000	.10.000	89.00	.8583-01	.1043	.1169	9.10	4.987	.4350	.577.2	.1268-02
70	.150000	.20.000	104.00	.1163	.1404	.1566	60.97	7.092	.4164	.560.2	.1721-02
71	.150000	.25.500	107.00	.1150	.1395	.1562	58.42	6.715	.4319	.573.2	.1696-02
70	.15000	.45.000	111.00	.7625-01	.9190-01	.1024	61.36	4.678	.4128	.555.3	.1127-02
71	.15000	.45.500	117.00	.65F4-01	.7961-01	.8909-01	58.61	3.847	.4302	.570.9	.9679-03
70	.15000	.180.00	65.00	.3072	.3701	.4130	61.19	18.80	.4144	.557.4	.4543-02
70	.200000	.00000	22.00	.4423-01	.5312	.5944-01	61.27	2.710	.4136	.556.3	.6540-03
70	.200000	.11.500	91.00	.5403-01	.6517-01	.7266-01	61.15	3.304	.4148	.557.9	.7991-03
70	.200000	.24.000	93.00	.5918-01	.7125-01	.7935-01	61.68	3.304	.4139	.551.3	.8740-03
71	.200000	.31.500	108.00	.7790-01	.9449-01	.1057	58.60	4.565	.4302	.570.9	.1149-02

DATE 24 JAN 76	-	ARC 3.5-173 IH3	-	ARC 3.5-178 IH3 O+T+S	ORBITER FUSELAGE	TH DEQ. R	STN NO R=0.9
RUN NUMBER	X/L	PHI	T/C NO	H/HREF F=1.0	H/HREF R=0.9	QREF BTU/FT2SEC	QDOT BTU/FT2SEC
71	.20000	35.000	110.00	.1139	.1382	.1547	.58.44
71	.40000	40.000	.1058	.1283	.1437	.58.45	.6.162
71	.51000	51.000	.7041-01	.8542-01	.9561-01	.58.53	.1.039-02
71	.60000	67.500	.3407-01	.4133-01	.4626-01	.58.55	.5024-03
71	.70000	96.500	.133.00	.7795-01	.9445-01	.1056	.58.91
71	.70	.180.00	.69.000	.1293	.1557	.1734	.59.52
70	.30000	.26.000	.9662-01	.1165	.1299	.161.57	.7.960
70	.30000	.12.000	.9636-01	.1162	.1295	.61.24	.5.917
70	.30000	.23.000	.8983-01	.1081	.1204	.61.29	.5.906
70	.30000	.34.000	.109.00	.1249	.1396	.61.73	.5.945
71	.30000	.40.000	.113.00	.9911-01	.1201	.1344	.60.95
71	.30000	.45.000	.114.00	.8601-01	.9629-01	.1085	.60.81
71	.30000	.57.500	.119.00	.4299-01	.5198-01	.5813-01	.58.30
71	.30000	.61.000	.120.00	.2897-01	.3401-01	.3804-01	.58.69
71	.30000	.55.000	.122.00	.2992-01	.3622-01	.4047-01	.59.19
71	.30000	.70.000	.129.00	.2696-01	.3207-01	.3587-01	.58.80
70	.39000	.106.00	.134.00	.4770-01	.5749-01	.6406-01	.61.37
70	.39000	.135.00	.141.00	.3985-01	.4834-01	.5410-01	.58.58
71	.30000	.180.00	.71.02	.71.02	.81.45	.9511-02	.61.90
70	.30000	.40.000	.30.000	.73.31-01	.9516-01	.1068	.61.27
70	.40000	.21.500	.95.000	.65.57-01	.7864-01	.8756-01	.61.73
70	.40000	.105.00	.151.00	.4822-01	.5306-01	.61.68-01	.61.52
71	.40000	.135.00	.142.00	.4566-01	.5534-01	.6190-01	.58.83
70	.40000	.180.00	.72.000	.4698-01	.5654-01	.6294-01	.61.84
70	.50000	.60.000	.34.000	.8115-01	.9763-01	.1090	.61.27
70	.50000	.21.500	.96.000	.6663-01	.8022-01	.8934-01	.61.66
71	.50000	.105.00	.136.00	.4117-01	.4985-01	.5569-01	.59.21
71	.50000	.135.00	.143.00	.4716-01	.5789-01	.6475-01	.58.80
71	.50000	.180.00	.73.000	.5716-01	.6916-01	.7728-01	.59.29
71	.60100	.77.000	.130.00	.3876-01	.7113-0	.7949-01	.59.19
71	.60500	.05.00	.137.00	.3902-01	.4723-0	.5279-01	.59.16
71	.70000	.112.00	.147.00	.4410-01	.5332-0	.5954-01	.59.13
72	.60000	.113.00	.146.00	.4716-01	.5789-01	.6475-01	.59.09
72	.60000	.135.00	.144.00	.4969-0	.6008-0	.6710-01	.59.09
71	.60000	.190.00	.74.000	.5716-01	.6562-0	.6732-01	.58.89
70	.60000	.175.00	.136.00	.4673-0	.7458-0	.8303-01	.61.80
71	.70000	.155.00	.145.00	.4659-01	.5645-01	.63.2-01	.58.93
71	.70000	.180.00	.75.000	.587-01	.6768-01	.7568-01	.58.95
71	.70000	.180.00	.75.000	.6227-01	.7510-01	.6290-01	.59.34
71	.80000	.65.000	.123.00	.2703-01	.3270-01	.3553-01	.59.33
71	.80000	.105.00	.139.00	.6491-01	.7860-01	.8786-01	.59.07
71	.80000	.180.00	.76.000	.1013	.1226	.1370	.59.19
71	.90000	.65.000	.124.00	.5004-01	.6061-01	.6776-01	.59.03

DATE 24 JAN 76

ARC 3.5-173 IH3

ARC 3.5-178 IH3 0+1+S

ORBITER FUSELAGE

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(REF ID: A)

ORBITER FUSELAGE

	RNL	PO	TO	HO	RS	RHOEL	ALPHA	ELEVON
	PER FT	PSIA	DEG. R	BTU/LBMIN	FT	SLUG/FT2SEC	DEG.	.0000
7+	5.300	.5051+07	406.7	1295.	316.3	.1750-01	.8289	-3.000
76	5.300	.5017+07	406.9	1301.	317.8	.1750-01	.8270	-3.000
79	5.300	.4970+07	406.9	1309.	319.8	.1750-01	.8241	.0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RNL PER FT	PO PSIA	TO DEG. R	HO BTU/LBMIN	RS FT	RHOEL SLUG/FT2SEC	ALPHA DEG.	ELEVON .0000
7	7.0	30.00	.4713-01	.5740-01	.6442-01	57.05	2.689	.4412	581.6
74	.500000-01	14.000	.5419-01	.6599-01	.7406-01	57.06	3.092	.4411	.6946-03
74	.500000-01	22.000	.5426-01	.8912-01	.9994-01	57.37	4.202	.4381	.7986-03
74	.500000-01	35.000	.1246	.1521	.1709	57.13	7.117	.4467	.1079-02
79	.500000-01	60.000	.1311	.1621	.1533	.1719	.57.48	.4370	.1852-02
74	.500000-01	180.00	.61.000	.4043	.4923	.5519	.57.50	.4369	.1856-02
74	.103000-00	.09000	.12.000	.2507	.3049	.3418	.57.46	.4373	.5460-02
74	.100000-00	10.000	.08.000	.1152	.1405	.1580	.57.22	.4459	.3690-02
79	.100003-00	20.000	.103.00	.1902	.1222	.1372	.57.36	.4445	.1712-02
79	.100003-00	24.500	.106.00	.39.96-01	.4239-01	.4742-01	.58.32	.4445	.1488-02
74	.100006-00	39.000	.116.00	.132.00	.1953-01	.1150	.1290	.4291	.592.5
79	.100006-00	119.00	.63.000	.7727-01	.9370-01	.1049	.58.01	.4394	.5133-03
74	.100006-00	180.00	.09.000	.7049-01	.8595-01	.9654-01	.57.59	.4445	.1401-02
79	.150000	10.000	.09.000	.9389-01	.1140	.1277	.57.80	.4442	.1135-02
74	.150613	20.000	.104.00	.1196	.1428	.1637	.57.51	.4373	.1047-02
79	.150000	25.500	.107.00	.1111	.1111	.1111	.58.30	.4373	.1381-02
74	.150000	40.000	.111.00	.8192-01	.9134-01	.9134-01	.58.01	.4373	.1776-02
74	.150000	180.00	.65.000	.2374-01	.2880	.3223	.58.19	.4303	.1203-02
74	.200000	.00000	.22.000	.4334-01	.5253-01	.5877-01	.58.34	.4289	.3487-02
74	.200000	.11.000	.91.000	.3918-01	.4754-01	.5321-01	.58.13	.4309	.6362-03
74	.200000	.24.000	.93.000	.5168-01	.6261-01	.7001-01	.58.55	.4278	.5756-03
79	.200000	.31.500	.108.00	.6923-01	.8430-01	.9459-01	.57.78	.4006	.7583-03
79	.200000	.35.000	.110.00	.9824-01	.1196	.1342	.57.84	.4406	.1027-02
79	.200000	.96.500	.133.00	.5191-01	.6314-01	.7080-01	.58.09	.4376	.1457-02
74	.200000	.180.00	.69.000	.1223	.1481	.1655	.58.66	.4258	.7693-03
74	.300000	.26.000	.00000	.7375-01	.8940-01	.1000	.58.34	.4289	.1793-02

RUN NUMBER	X/L	PHI	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	OREF BTU/FT2SEC	QDOT BTU/FT2SEC	HW/HT	TW DEG. R	STN NO R=0.9
74	.100000-00	.14.000	.30.000	.4713-01	.5740-01	.6442-01	.57.05	2.689	.4412	581.6	.6946-03
74	.100000-00	22.000	.05.000	.5419-01	.6599-01	.7406-01	.57.06	3.092	.4411	.581.5	.7986-03
74	.100000-00	35.000	.115.000	.5426-01	.8912-01	.9994-01	.57.37	4.202	.4381	.577.6	.1079-02
74	.100000-00	60.000	.131.000	.1246	.1521	.1709	.57.13	7.117	.4467	.595.4	.1852-02
79	.100000-00	180.000	.61.000	.1261	.1533	.1719	.57.48	7.249	.4370	.576.1	.1856-02
74	.103000-00	.09000	.12.000	.4043	.4923	.5519	.57.50	23.28	.4369	.576.0	.5460-02
74	.100000-00	10.000	.08.000	.2507	.3049	.3418	.57.46	14.40	.4373	.576.5	.3690-02
79	.100003-00	20.000	.103.00	.1152	.1405	.1580	.57.22	6.594	.4459	.591.3	.1712-02
79	.100003-00	24.500	.106.00	.1902	.1222	.1372	.57.36	5.745	.4445	.592.5	.1488-02
74	.100006-00	39.000	.116.00	.39.96-01	.4239-01	.4742-01	.58.32	2.039	.4291	.565.7	.5133-03
79	.100006-00	119.00	.132.00	.9453-01	.1150	.1290	.58.01	5.484	.4394	.584.4	.1401-02
74	.100006-00	180.00	.63.000	.7727-01	.9370-01	.1049	.58.24	.4500	.4299	.566.7	.1135-02
79	.150000	10.000	.09.000	.7049-01	.8595-01	.9654-01	.57.59	4.045	.4442	.592.1	.1047-02
74	.150613	20.000	.104.00	.9389-01	.1140	.1277	.57.80	5.426	.4341	.572.2	.1381-02
79	.150000	25.500	.107.00	.1196	.1428	.1637	.57.51	6.879	.4432	.590.7	.1776-02
74	.150000	40.000	.111.00	.8192-01	.9134-01	.9134-01	.58.30	.4373	.565.9	.1203-02	
74	.150000	180.00	.65.000	.2374-01	.2880	.3223	.58.19	.4303	.4289	.567.3	.3487-02
74	.200000	.00000	.22.000	.4334-01	.5253-01	.5877-01	.58.34	2.528	.4289	.565.4	.6362-03
74	.200000	.11.000	.91.000	.3918-01	.4754-01	.5321-01	.58.13	2.278	.4309	.568.0	.5756-03
74	.200000	.24.000	.93.000	.5168-01	.6261-01	.7001-01	.58.55	3.026	.4269	.562.8	.7583-03
79	.200000	.31.500	.108.00	.6923-01	.8430-01	.9459-01	.57.78	4.000	.4406	.587.2	.1027-02
79	.200000	.35.000	.110.00	.9824-01	.1196	.1342	.57.84	5.683	.4406	.586.5	.1457-02
79	.200000	.96.500	.133.00	.5191-01	.6314-01	.7080-01	.58.09	3.016	.4376	.583.3	.7693-03
74	.200000	.180.00	.69.000	.1223	.1481	.1655	.58.66	7.173	.4258	.561.4	.1793-02
74	.300000	.26.000	.00000	.7375-01	.8940-01	.1000	.58.34	4.303	.4289	.565.4	.1083-02

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

DATE 24 JAN 76

ARC 3.5-178 IH3

PAGE 272

(REF P20)

RUN NUMBER	X/L	PHI	T/C NO	H/HREF R=1.0	H/HREF R=0.9	ARC 3.5-178 IH3 O+T+S	ORBITER FUSELAGE	QDOT BTU/ FT2SEC	QREF BTJ/ FT2SEC	HW/HIT	TW DEG. R	STN NO R=0.9
74	.30000	.2,000	92.000	.8204-01	.9943-01	.1112	.58.39	.4,790	.4284	.564.8	.1204-02	
74	.30000	.23,000	94.000	.8783-01	.1063	.1188	.5.168	.4242	.559.2	.1288-02		
79	.30000	.34,000	109.000	.1073	.1305	.1463	.5.	.4370	.582.5	.1580-02		
79	.30000	.70,000	129.000	.3781.01	.4597-01	.5153-01	.58.19	.2,200	.4367	.582.1	.5601-03	
74	.30000	.106,000	134.000	.3812-01	.4618-01	.5164-01	.58.55	.2,232	.4269	.562.8	.5693-03	
79	.30000	.135,000	141.000	.4003-01	.4865-01	.5453-01	.58.28	.2,333	.4359	.581.0	.5928-03	
74	.30000	.180,000	71.000	.6167-02	.7457-02	.8327-02	.59.11	.3646	.4216	.555.8	.9034-04	
74	.40000	.200,000	30.000	.7412-01	.8983-01	.1005	.58.42	.4,330	.4282	.564.4	.1088-02	
74	.40000	.21,500	95.000	.6455-01	.7899-01	.8724-01	.58.93	.3,804	.4233	.558.0	.9459-03	
74	.40000	.105,000	135.000	.4871-01	.5896-01	.6589-01	.58.79	.2,863	.4247	.559.8	.7142-03	
79	.40000	.135,000	142.000	.3562-01	.4328-01	.4849-01	.58.41	.2,081	.4247	.579.3	.5273-03	
74	.40000	.180,000	72.000	.240E-01	.2908-01	.3247-01	.59.16	.1,423	.4211	.555.2	.3523-03	
74	.50000	.00000	34.000	.7164-01	.8682-01	.9710-01	.58.43	.4,186	.4280	.564.3	.1551-02	
74	.50000	.21,500	96.000	.6348-01	.7681-01	.8581-01	.58.90	.3,739	.4236	.558.5	.6438-03	
79	.50000	.105,000	136.000	.4348-01	.5283-01	.5923-01	.58.35	.2,537	.4352	.580.1	.6157-03	
79	.50000	.135,000	143.000	.4158-01	.5053-01	.5662-01	.58.31	.2,424	.4356	.580.6	.6157-03	
79	.50000	.180,000	73.000	.4130-01	.5014-01	.5616-01	.58.59	.2,420	.4330	.577.1	.6111-03	
79	.60000	.77,000	130.000	.3982-01	.4836-01	.5417-01	.58.52	.2,331	.4336	.577.9	.5894-03	
79	.60000	.105,000	137.000	.4005-01	.4866-01	.5451-01	.58.43	.2,340	.4345	.579.1	.5894-03	
76	.60000	.112,000	147.000	.4371-01	.5293-01	.5917-01	.58.93	.2,576	.4262	.564.5	.6428-03	
76	.60000	.113,000	146.000	.4847-01	.5871-01	.6564-01	.58.89	.2,854	.4266	.565.0	.7130-03	
79	.60000	.135,000	144.000	.4249-01	.5164-01	.5788-01	.58.28	.2,476	.4359	.581.0	.6292-03	
74	.60000	.180,000	74.000	.4839-01	.5849-01	.6531-01	.59.15	.2,862	.4213	.555.3	.7087-03	
79	.70000	.105,000	138.000	.4201-01	.5105-01	.5721-01	.58.35	.2,451	.4353	.580.1	.6221-03	
79	.70000	.135,000	145.000	.4057-01	.4930-01	.5525-01	.58.31	.2,366	.4356	.580.6	.6008-03	
79	.70000	.180,000	75.000	.5385-01	.6538-01	.7322-01	.58.60	.3,155	.4329	.577.0	.7267-03	
74	.80000	.195.000	139.00	.5407-01	.6566-01	.7354-01	.58.55	.3,166	.4334	.577.6	.8001-03	
74	.80000	.180.000	76.000	.9770-01	.1187	.1329	.58.48	.5,713	.4341	.578.5	.1446-02	

DATE 24 JAN 76

ARC 3.5-178 1H3

PAGE 273

VERTICAL TAIL  
(REF IV01)

ARC 3.5-178 1H3 O+T+S

PARAMETRIC DATA

(REF IV01)

RUN/L \* 1.500 BETA \* .0000 ALPHA \* .0000 ELEVON \* .0000

(REF IV01)

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBM	RS FT	RHOEL SLUG/FT2SEC	ALPHA DEG.
3	5.300	.1491+.07	165.6	1581.	390.9	.1750-.01	.2979	.0000
5	5.300	.1471+.07	141.9	1487.	166.2	.1750-.01	.2656	.0000
9	5.300	.1476+.07	122.8	1222.	323.2	.1750-.01	.2472	.0000
10	5.300	.1454+.07	118.8	1307.	319.3	.1750-.01	.2407	.0000

\*\*\*TEST CONDITIONS\*\*\*

(REF IV01)

\*\*\*TEST DATA\*\*\*

RUN NUMBER	Z/BV	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	HW/HT	TH DEG. R	STN NO R=0.9
5	-15900	.10000+.00	265.00	.7395-.01	.8813-.01	.9747-.01	.43.76	.3786	.577.8	.1984-.02
5	-15900	.30000	265.00	.1153	.1370	.1515	.43.79	.5.034	.3783	.577.3
5	-15900	.70000	267.00	.2673	.2894	.3199	.01	.1.070	.3751	.6516-.03
5	-29900	.00000	268.00	.3760	.4482	.4959	.43.70	.16.43	.3795	.579.1
5	-29900	.10000+.00	269.00	.7619	.7619	.1005	.43.73	.3.332	.3790	.578.4
5	-29900	.39000	270.00	.3188	.3798	.4200	.01	.43.93	.3778	.576.5
5	-29900	.50000	271.00	.1257	.1258	.1258	.01	.43.96	.3759	.573.7
5	-29900	.70000	272.00	.3054	.3647	.4030	.01	.44.09	.3742	.571.0
5	-29900	.90000	273.00	.2605	.3103	.3430	.01	.43.98	.3757	.573.3
3	.53200	.00000	274.00	.3223	.3803	.4180	.01	.53.38	.3450	.562.1
3	.53200	.10000+.00	275.00	.9111	.1075	.1161	.01	.53.50	.3436	.559.8
3	.53200	.30000	276.00	.3712	.4377	.4908	.01	.53.64	.3420	.557.2
3	.53200	.50000	277.00	.1749	.2052	.2254	.01	.53.73	.3409	.555.4
3	.53200	.70000	278.00	.1134	.1408	.1546	.01	.53.77	.3405	.554.7
3	.53200	.90000	279.00	.2626	.3334	.3663	.01	.53.52	.3434	.559.5
3	.76500	.00000	280.00	.4595	.5114	.5951	.01	.53.25	.3466	.564.7
3	.76500	.10000+.00	281.00	.1034	.1290	.1418	.01	.53.52	.3434	.559.4
3	.76500	.30000	282.00	.5567	.6565	.7211	.01	.53.63	.3421	.557.4
3	.76500	.50000	283.00	.3834	.4519	.4963	.01	.53.75	.3407	.555.0
3	.76500	.70000	284.00	.1307	.1541	.1692	.01	.53.75	.3407	.555.1
5	.90500	.00000	286.00	.4625	.5594	.6187	.01	.53.82	.3779	.576.7
5	.90500	.10000+.00	287.00	.1594	.1899	.2099	.01	.53.94	.3762	.574.1

DATE 24 JAN 76

ARC 3.5-178 1H3

VERTICAL TAIL

PAGE 274  
(REV02)

ARC 3.5-178 IH3 O+T+S VERTICAL

PARAMETRIC DATA

RN/L = 5.000 BETA = .000C ALPHA = .0000 ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RN, NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBIN	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
15	5.300	.4972+.07	405.4	1305.	318.2	.1750-.01	.8223	.0000
16	5.300	.4953+.07	406.3	1310.	320.2	.1750-.01	.8223	.0000
17	5.300	.5006+.07	405.7	1300.	317.6	.1750-.01	.8248	.0000
18	5.300	.5098+.07	404.9	1284.	313.4	.1750-.01	.8294	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	Z/BV	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QREF BTU/ F12SEC	QDOT BTU/ F12SEC	H/H HT	TW DEG. R	STN NO R=0.9
15	15900		10000+00	265.00	.7835-.01	.9529-.01	.1068	57.33	4.374	581.4
15	.15900		30000	266.00	.1539	.1870	.2096	58.04	4.354	.578.7
15	.15900		70000	267.00	.2914-.01	.3535-.01	.3956-.01	58.57	4.305	.572.1
15	.29900		00000	268.00	.3274-	.3985-	.4470	57.61	4.395	.584.2
15	.29900		10000+00	269.00	.6927-.01	.8425-.01	.9447-.01	57.82	4.006	.581.5
15	.29900		30000	270.00	.4785-.01	.5810-.01	.6507-.01	58.27	2.788	.573.9
15	.29900		50000	271.00	.1345	.1631	.1825	58.60	7.681	.571.8
15	.29900		70000	272.00	.3775-.01	.4575-.01	.5117-.01	58.84	2.221	.5577-.02
15	.29900		90000	273.00	.3438-.01	.4173-.01	.4674-.01	58.20	1.999	.5086-.03
17	.53200		00000	274.00	.8880	.3497	.3916	58.08	16.73	.4250-.02
17	.53200		10000+00	275.00	.8172-.01	.9914-.01	.1110	58.32	4.766	.1205-.02
17	.53200		30000	276.00	.4135-.01	.5010-.01	.5602-.01	58.71	2.428	.6091-.03
17	.53200		50000	277.00	.3325-.01	.4024-.01	.4497-.01	59.01	1.962	.4243
17	.53200		70000	278.00	.1819-.01	.2201-.01	.2460-.01	58.99	1.073	.2671-.03
17	.53200		90000	279.00	.4042-.01	.4907-.01	.5495-.01	58.12	2.349	.4327
17	.76500		00000	280.00	.4208	.5119	.5741	57.52	24.20	.4384
17	.76500		10000+00	281.00	.1029	.1250	.1401	57.96	5.965	.574.9
17	.76500		30000	282.00	.5027-.01	.6099-.01	.6327-.01	58.28	2.930	.570.8
17	.76500		50000	283.00	.3560-.01	.4313-.01	.4324-.01	58.67	2.089	.4275
17	.76500		70000	284.00	.1130-.01	.1369-.01	.1531-.01	58.69	.6630	.4273
15	.90500		00000	286.00	.5523	.6724	.7544	57.55	31.78	.4401
15	.90500		10000+00	287.00	.1917	.2331	.2613	57.88	11.09	.4369

DATE 24 JAN 76

ARC 3.5-178 IH3

ARC 3.5-178 IH3 O+T+S (TRIPS) VERTICAL

VERTICAL TAIL

PAGE 275  
(REV03)

PARAMETRIC DATA		
RN/L	MACH	RN/L PER FT
19	5.300	.1500+07
20	5.300	.1537+07
21	5.300	.1523+07
22	5.300	.1470+07

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/LBMIN	RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
19	5.300	.1500+07	122.6	1308.	319.5	.1750-01	.2485	.0000
20	5.300	.1537+07	121.3	1279.	312.1	.1750-01	.2491	.0000
21	5.300	.1523+07	122.0	1291.	315.3	.1750-01	.2492	.0000
22	5.300	.1470+07	122.1	1321.	322.9	.1750-01	.2459	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	Z/BV	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/FT2SEC	QDOT BTU/FT2SEC	H/HIT	HW/HIT	TW DEG. R	STN NO R=0.9
22	15900	.10000+00	265.00	.7232-01	.8715-01	.9711-01	33.63	2.432	.4125	.555	0	1953-02
22	15900	.30000	266.00	.1164	.1403	.1563	33.68	3.922	.4115	.553	7	3143-02
22	15900	.70000	267.00	.2240-01	.2696-01	.3002-01	33.83	7.577	.4091	.550	4	6042-03
22	.29900	.00000	268.00	.3573	.4309	.4804	33.49	11.97	.4147	.558	0	9653-02
22	.29900	.10000+00	269.00	.7317-01	.6820-01	.9829-01	33.59	2.458	.4131	.555	9	1976-02
22	.29900	.30000	270.00	.3478-01	.4189-01	.4657-01	33.70	1.172	.4112	.553	3	9387-03
22	.29900	.50000	271.00	.1063	.1287	.1433	33.79	3.612	.4097	.551	3	2884-02
22	.29900	.70000	272.00	.2853-01	.3433-01	.3822-01	33.85	.9657	.4086	.549	9	7694-03
22	.29900	.90000	273.00	.2461-01	.2963-C1	.3301-01	33.74	.8203	.4105	.552	4	6641-03
20	.53200	.00000	274.00	.3342	.4052	.4533	31.40	10.49	.4293	.558	4	8910-02
20	.53200	.10000+00	275.00	.8546-01	.1036	.1159	31.45	2.687	.4284	.557	3	2278-02
20	.53200	.30000	276.00	.3658-01	.4432-01	.4956-01	31.51	1.157	.4272	.555	7	9748-03
20	.53200	.50000	277.00	.1562-01	.1916-01	.2142-01	31.58	.4997	.4260	.554	1	4215-03
20	.53200	.70000	278.00	.7798-02	.9441-02	.1055-01	31.62	.2466	.4253	.553	2	2077-03
20	.53200	.90000	279.00	.2171-01	.2638-01	.2951-01	31.46	.6849	.4282	.557	0	5802-03
20	.76500	.00000	280.00	.4588	.5565	.6229	31.32	14.37	.4306	.560	1	1224-01
20	.76500	.10000+00	281.00	.1030	.1249	.1397	31.42	3.237	.4289	.557	9	2747-02
20	.76500	.30000	282.00	.5166-01	.6261-01	.703-01	31.46	1.625	.4282	.557	0	1377-02
20	.76500	.50000	283.00	.3689-01	.4469-01	.4997-01	31.54	1.164	.4268	.555	2	9830-03
20	.76500	.70000	284.00	.1200-01	.1453-01	.1625-01	31.57	.3787	.4263	.554	5	3196-03
22	.90500	.00000	286.00	.4660	.5859	.6529	33.57	16.32	.4133	.556	2	1313-01
22	.90500	.10000+00	287.00	.1697	.2045	.2278	33.68	.4116	.553	.553	9	4582-02



DATE 24 JAN 76

ARC 3.5-178 IH3

VERTICAL TAIL

ARC 3.5-178 IH3  
ARC 3.5-178 IH3 O+T+SPAGE 277  
(REV 5)

VERTICAL TAIL

RN/L = 5.000 BETA = -5.000 ALPHA = .0000 ELEVON = .0000

PARAMETRIC DATA

ALPHA DEG.

RHOVEL SLUG/ FT2SEC

RS FT

HO LB/M

PO BTU/ FT

DEG. R

RN/L PSIA

MACH

RN/L PER FT

RUN NUMBER

...TEST CONDITIONS...

RN/L = 5.000 BETA = -5.000 ALPHA = .0000 ELEVON = .0000

PARAMETRIC DATA

ALPHA DEG.

RHOVEL SLUG/ FT2SEC

RS FT

HO LB/M

PO BTU/ FT

DEG. R

RN/L PSIA

MACH

RN/L PER FT

RUN NUMBER

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO LB/M	RS FT	RHOVEL SLUG/ FT2SEC	ALPHA DEG.
36	5.300	.5031+07	406.1	1297.	316.8	.1750-C1	.8269	.0000
37	5.300	.5113+07	401.9	1270.	309.8	.1750-01	.8285	.0000
38	5.300	.5055+07	406.0	1293.	315.8	.1750-01	.8282	.0000
39	5.300	.5045+07	406.2	1295.	316.3	.1750-01	.8279	.0000

...TEST DATA...

RUN NUMBER	Z/BV	X. C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT2SEC	QDOT BTU/ FT2SEC	HW/HF	HW/HF	STN NO R=0.9
36	15900	10000+00	265.00	1167	1426	1604	56.23	6.562	.4495	.593.6	.1728-02
36	15900	.30000	265.00	.1629	.2001	.2250	56.35	9.231	.4483	.592.0	.2445-02
36	15900	.70000	267.00	.3523-01	.4293-01	.4619-01	56.99	2.008	.4423	.584.0	.5204-03
36	29900	.00000	268.00	.3053	.3733	.4200	56.11	17.13	.4506	.595.1	.4522-02
36	29900	.10000+00	269.00	.1022	.1249	.1406	56.10	5.733	.4507	.595.2	.1514-02
36	29900	.30000	270.00	.7211-01	.8905-01	.9899-01	56.42	4.068	.4477	.591.2	.1067-02
36	29900	.50000	271.00	.1818	.2217	.2489	56.86	10.34	.4335	.586.7	.2687-02
36	29900	.70000	272.00	.5072-01	.6174-01	.6026-01	57.29	2.906	.4394	.580.2	.7486-03
36	29900	.90000	273.00	.5151-01	.6279-01	.7251-01	56.87	2.929	.4434	.585.5	.761.1-03
38	.53200	.00000	274.00	.2935	.3574	.4011	56.97	16.72	.4405	.579.7	.4325-02
38	.53200	.10000+00	275.00	.9008-01	.1205	.1351	57.28	5.675	.4376	.575.9	.1458-02
38	.53200	.30000	276.00	.6035-01	.7331-01	.8212-01	57.64	3.479	.4341	.571.3	.8874-03
38	.53200	.50000	277.00	.5557-01	.6742-01	.7547-01	57.97	3.221	.4310	.567.2	.8163-03
38	.53200	.70000	278.00	.3813-01	.4625-01	.5176-01	58.04	2.213	.4303	.566.3	.5600-03
38	.53200	.90000	279.00	.6650-01	.8090-01	.9072-01	57.22	3.805	.4-31	.576.5	.9790-03
38	.76500	.00000	280.00	.4344	.5300	.5954	56.48	24.53	.4452	.585.9	.6411-02
38	.76500	.10000+00	281.00	.1332	.1623	.1821	56.93	7.585	.4409	.580.3	.1963-02
38	.76500	.30000	282.00	.6045-01	.7353-01	.8245-01	57.25	3.461	.4378	.576.1	.8899-03
38	.76500	.50000	283.00	.4015-01	.4877-01	.5464-01	57.63	2.314	.4342	.571.4	.5904-03
38	.76500	.70000	284.00	.1718-01	.2086-01	.2236-01	57.74	.9919	.4332	.570.1	.2525-03
36	.90500	.00000	286.00	.4939	.6037	.6792	56.15	27.73	.4502	.594.5	.7315-02
36	.90500	.10000+00	287.00	.2344	.2862	.3217	56.47	13.24	.4472	.590.5	.3463-02

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ARC 3.5-178 IH3

## VERTICAL TAIL

ARC 3.5-178 IH3

ARC 3.5-178 IH3 ORBITER

(REV06)

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VERTICAL

	RN/L	=	1.500	BETA	=	.0000	ALPHA	=	.0000	ELEVON	=	.0000

## \*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/ PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOEL SLUG/ FT <sup>2</sup> SEC	ALPHA DEG.
40	5.300	.1626+07	130.4	1287.	314.1	.1750-01	.2668	.0000
41	5.300	.1582+07	126.6	1290.	315.0	.1750-01	.2586	.0000
42	5.300	.1522+07	122.7	1296.	316.5	.1750-01	.2500	.0000
43	5.300	.1516+07	123.1	1302.	318.0	.1750-01	.2500	.0000

## \*\*\*TEST DATA\*\*\*

RUN NUMBER	Z/BV	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ F <sup>2</sup> SEC	QDOT BTU/ F <sup>2</sup> SEC	HW/HT	HW/HT	HW/HT	STN NO R=0.9
43	.15900	.10000+00	265.00	.6267-01	.7580-01	.8466-01	32.64	2.046	.4224	.559.8	.1675-02	
43	.15900	.30000	266.00	.1035	.1215-01	.1357	32.68	3.284	.4217	.558.9	.2684-02	
43	.15900	.70000	267.00	.2365	.2856-01	.3187-01	32.85	.7769	.4188	.555.1	.6312-03	
43	.29900	.00000	268.00	.3217	.3893	.4349	32.57	10.48	.4237	.561.5	.8600-02	
43	.29900	.10000+00	269.00	.6455	.7805-01	.8716-01	32.68	2.110	.4219	.559.0	.1725-02	
43	.29900	.30000	270.00	.8956	.9572-01	.9878-01	32.78	.9691	.4200	.556.6	.7893-03	
43	.29900	.50000	271.00	.1077	.1301-01	.1452	32.87	3.541	.4186	.54.8	.2876-02	
43	.29900	.70000	272.00	.2788	.3366-01	.3755-01	32.95	.9189	.4171	.552.8	.7439-03	
43	.29900	.90000	273.00	.2234	.2698-01	.3010-01	32.89	.7349	.4182	.54.2	.5963-03	
41	.53200	.00000	274.00	.3008	.3642	.4072	32.50	.9769	.4272	.560.9	.7886-02	
41	.53200	.10000+00	275.00	.7994	.9679-01	.1082	32.60	2.606	.4255	.558.6	.2096-02	
41	.53200	.30000	276.00	.2914	.3526-01	.3940-01	32.58	.9524	.4241	.556.8	.7637-03	
41	.53200	.50000	277.00	.2275	.2704-01	.3021-01	32.74	.7319	.4231	.555.5	.5857-03	
41	.53200	.70000	278.00	.1566	.1895-01	.2116-01	32.76	.5132	.4227	.555.0	.4104-03	
41	.53200	.90000	279.00	.2804	.3394-01	.3793-01	32.66	.9158	.4246	.557.4	.7351-03	
41	.76500	.00000	280.00	.4795	.5808	.6495	32.51	.15.39	.4271	.560.7	.1258-01	
41	.76500	.10000+00	281.00	.1058	.1280	.1431	32.65	3.453	.4247	.557.5	.2773-02	
41	.76500	.30000	282.00	.5078	.6144-01	.6865-01	32.70	1.661	.4239	.556.3	.1331-02	
41	.76500	.50000	283.00	.3546	.4289-01	.4791-01	32.77	1.162	.4227	.54.9	.9290-03	
41	.76500	.70000	284.00	.1121	.1355-01	.1514-01	32.76	.3671	.4228	.555.0	.2936-03	
43	.90500	.00000	286.00	.5314	.6418	.7162	32.86	.17.46	.4188	.555.0	.1418-01	
43	.90500	.10000+00	287.00	.1764	.2129	.2375	32.97	.4169	.4169	.552.5	.4706-02	

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ARC 3.5-178 IH<sup>2</sup>

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(REF1V07)

ARC 3.5-178 IH3 ORBITER  
VERTICAL TAIL

PARAMETRIC DATA		
RN/L	BETA	ALPHA
5.000	- .0000	- .0000
		ELEVON = .0000

\*\*\*TEST CONDITIONS\*\*\*

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LBM	RS FT	RHOEL SLUG/ FT <sup>2</sup> SEC	ALPHA DEG.
44	5.300	.5112+0.07	406.4	1285.	313.6	.1750-01	.8322	.0000
45	5.300	.5035+0.07	406.2	1297.	316.7	.1750-01	.8273	.0000
46	5.300	.5003+0.07	405.9	1301.	317.9	.1750-01	.8248	.0000
47	5.300	.5392+0.07	404.9	1240.	302.0	.1750-01	.8469	.0000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	Z/BY	X/C	T/C NC	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF BTU/ FT <sup>2</sup> SEC	QOOT BTU/ FT <sup>2</sup> SEC	HT/HT	HT/HT	TH DEG. R	STN NO R=0.9
44	15900	-100000+00	265.00	.6597-01	.8050-01	.9046-01	56.03	3.696	.4458	.582	.582.8	.9693-03
44	15900	-300000	266.00	.1335	.1627	.1828	56.24	7.507	.4438	.580	.580.1	.1960-02
44	15900	-700000	267.00	.2839	.3953-01	.3872-01	56.85	1.614	.4380	.572	.572.5	.4160-03
44	29900	-000000	268.00	.2668	.3258	.3562	55.84	14.90	.4477	.585	.585.1	.3922-02
44	29900	-100000+00	269.00	.6175	.7542-01	.8481-01	55.78	3.444	.4483	.585	.585.9	.9080-03
44	29900	-300000	270.00	.3684	.4492-01	.5047-01	56.16	2.069	.4446	.581	.581.1	.5410-03
44	29900	-500000	271.00	.1281	.1559	.1749	56.68	7.262	.4396	.574	.574.5	.1876-02
44	29900	-700000	272.00	.3216	.3908-01	.4379-01	57.12	1.837	.4354	.569	.569.1	.4708-03
44	29900	-900000	273.00	.2954	.2958-01	.4037-01	56.56	1.671	.4407	.576	.576.1	.4333-03
46	53200	-000000	274.00	.2517	.3070	.3448	56.94	4.33	.4444	.588	.588.8	.3729-02
46	53200	-100000+00	275.00	.8176	.9961-01	.1118	57.20	4.677	.4419	.585	.585.4	.1210-02
46	53200	-300000	276.00	.3623	.4408-01	.4943-01	57.57	2.086	.4384	.580	.580.8	.5357-03
46	53200	-500000	277.00	.2215	.2691-01	.3015-01	57.96	1.284	.4348	.576	.576.0	.3271-03
46	53200	-700000	278.00	.1998	.2426-01	.2718-01	58.06	1.160	.4338	.574	.574.7	.2949-03
46	53200	-100000	279.00	.4259	.5187-01	.5821-01	57.29	2.440	.4411	.584	.584.4	.6303-03
46	75500	-000000	280.00	.3972	.4730	.5319	56.49	21.87	.4486	.594	.594.3	.5745-02
46	75500	-100000+00	281.00	.1143	.1395	.1567	56.91	6.507	.4447	.589	.589.1	.1694-02
46	76500	-300000	282.00	.5080	.6189-01	.6948-01	57.18	2.905	.4421	.585	.585.7	.7520-03
46	76500	-500000	283.00	.3650	.440-01	.4940-01	57.60	2.103	.4381	.580	.580.4	.5397-03
46	76500	-700000	284.00	.1032	.1254-01	.1406-01	57.75	.5957	.4367	.578	.578.6	.1524-03
44	90500	-000000	286.00	.4977	.6081	.6839	55.69	27.72	.4491	.587	.587.0	.7320-02
44	90500	-100000+00	287.00	.1972	.2407	.2705	55.99	11.04	.4462	.583	.583.2	.2898-02

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(REV 08/)

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RUN NUMBER	MACH	RN/L PER FT	P0 P <sub>E1A</sub>	TO DEG.	HO BTU/LBH	RS FT	RHOVEL SLUG/FT <sup>2</sup> SEC	ALPHA DEG.
48	5.300	.1533+07	123.1	1293.	315.7	.1750-01	.2511	.0000
49	5.300	.1526+07	122.7	1294.	315.9	.1750-01	.2502	.0000
50	5.300	.1431+07	118.7	1320.	322.6	.1750-01	.2392	.0000
51	5.300	.1495+07	121.6	1304.	318.4	.1750-01	.2469	.0000

***TEST CONDITIONS***								
RN/L		1.500	BETA		.0000	ALPHA		.0000

***TEST DATA***								
RUN NUMBER	Z/BV	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	QDOT BTU/FT <sup>2</sup> SEC	HW/HIT	STN NO R=0.9
51	.15900	.10000+00	265.00	.6537-01	.7895-01	.8810-01	.2140	.1485
51	.15900	.30000	266.00	.9962-01	.1203	.1342	.3273	.555.4
51	.15900	.70000	267.00	.2416-01	.2914-01	.3249-01	.3277	.554.5
51	.29900	.00000	268.00	.3335	.4031	.4501	.3259	.550.9
51	.29900	.10000+00	269.00	.6524-01	.7883-01	.8800-01	.3264	.558.7
51	.29900	.30000	270.00	.2697-01	.3257-01	.3635-01	.3274	.567.6
51	.29900	.50000	271.00	.1097	.1324	.1477	.3285	.555.3
51	.29900	.70000	272.00	.2893-01	.3489-01	.3890-01	.3294	.552.7
51	.29900	.90000	273.00	.2236-01	.2698-01	.3010-01	.3282	.550.7
49	.53200	.00000	274.00	.2673	.3492	.3913	.3162	.550.7
49	.53200	.10000+00	275.00	.7885-01	.9577-01	.1073	.3172	.549.7
49	.53200	.30000	276.00	.2896-01	.3515-01	.3926-01	.3182	.548.7
49	.53200	.50000	277.00	.2196-01	.2663-01	.2980-01	.3192	.547.7
49	.53200	.70000	278.00	.1552-01	.1881-01	.2105-01	.3196	.546.6
49	.53200	.90000	279.00	.2650-01	.3217-01	.3603-01	.3180	.545.6
49	.76500	.00000	280.00	.4541	.5522	.6190	.3155	.535.4
49	.76500	.10000+00	281.00	.1032	.1254	.1405	.3167	.534.3
49	.76500	.30000	282.00	.4999-01	.6071-01	.6801-01	.3172	.533.3
49	.76500	.50000	283.00	.3376-01	.4098-01	.4588-01	.3182	.532.3
49	.76500	.70000	284.00	.1046-01	.1310-01	.1466-01	.3186	.531.4
51	.90500	.00000	285.00	.6501	.6601	.7371	.3258	.529.9
51	.90500	.10000+00	287.00	.1769	.2137	.2385	.3268	.519.3

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ARC 3.5-178 IH3  
ARC 3.5-178 IH3 ORBITER (TRIPS) VERTICAL

## VERTICAL TAIL

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(REV09)

PARAMETRIC DATA									
	MACH	RN/L PER FT	PO ASIA	TO DEG. R	HQ BTU/LB M	RS FT	PHOENIX SL/DAY/SEC	ALPHA DEG.	ELEVON .0000
52	5.300	.5053+.07	405.5	1292.	315.6	.1750-.01	.8274	.0000	
53	5.300	.5027+.07	408.4	1299.	317.2	.1750-.01	.8269	.0000	
54	5.300	.53+.07	405.1	1278.	312.0	.1750-.01	.8220	.0000	
55	5.300	.4557+.07	402.9	1298.	317.0	.1750-.01	.8201	.0000	
***TEST CONDITIONS***									
RUN NUMBER	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	H/HREF R=0.85	QREF FT2SEC	QDOT BTU/SEC	HM/HIT DEG. R	HM/HIT DEG. R
52	.15900	.10000+.00	262.00	.6655-.01	.8108-.01	.9100-.01	.56.76	3.777	.4417
52	.15900	.30000	263.00	.1307	.1591	.1785	.56.97	.7.446	.4396
52	.15900	.70000	261.00	.2901-01	.3524-01	.3947-01	.57.53	1.671	.4338
52	.29900	.00000	262.00	.2666	.2977	.3681	.56.44	15.16	.4447
52	.23900	.10000-.00	263.00	.6163-01	.7518-01	.8447-01	.56.37	3.474	.4454
52	.23900	.30000	270.00	.3216-01	.3917-01	.4397-01	.56.77	1.826	.4416
52	.23300	.50000	271.0	.1243	.1519	.1702	.57.31	7.160	.4364
52	.23300	.70000	272.0	.3249-01	.3943-01	.4145-01	.57.75	.4323	.4323
52	.23300	.90000	273.00	.2620-01	.2946-01	.3970-01	.57.14	1.663	.4286
54	.53200	.00000	274.00	.2723	.3226	.3732	.56.23	15.38	.4396
54	.53200	.10000-.00	275.00	.7845-01	.9535-01	.1069	.56.63	4.442	.4462
54	.53200	.30000	275.00	.3620-01	.4190-01	.5029-01	.56.95	2.106	.4330
54	.53200	.50000	277.00	.1624-01	.2213-01	.2477-01	.57.17	1.043	.4310
54	.53200	.70000	278.00	.1919-01	.2143-01	.2143-01	.57.24	.9058	.4303
54	.53200	.90000	279.00	.4301-01	.5236-01	.5863-01	.56.66	2.441	.4358
54	.53200	.00000	280.00	.4189	.5101	.5721	.56.15	23.52	.4407
54	.53200	.10000-.00	281.00	.1110	.1760	.1513	.56.60	6.285	.4364
54	.53200	.30000	282.00	.5130-01	.6220-01	.6978-01	.56.90	2.919	.4336
54	.53200	.50000	283.00	.3801-01	.4610-01	.5160-01	.57.20	2.174	.4306
54	.53200	.70000	284.00	.1358-01	.1647-01	.1844-01	.57.22	.7772	.4304
54	.53200	.90000	285.00	.5004	.6110	.6969	.56.15	28.10	.4475
52	.90500	.00000	287.00	.1937	.2423	.2722	.56.45	11.21	.4447

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ARC 3.5-178 1H3

VERTICAL TAIL

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(REV 19)

ARC 3.5-178 1H3

ARC 3.5-178 1H3 0+1+S

VERTICAL

		RN/L = 5.000	BETA = .0000	ALPHA = -5.000	ELEVON = .0000

RUN NUMBER	MACH	RN/L PER FT	TEST CONDITIONS***			RS FT	RHOVEL SLUG/FT2SEC	ALPHA DEG.
			PO PSIA	TO DEG. R	HO BTU/LBM			
70	5.300	.4906+.07	407.3	1320.	322.8	.1750-.01	.8205	-5.000
71	5.300	.5001+.07	406.8	1303.	318.4	.1750-.01	.8258	-5.000
72	5.300	.4987+.07	403.9	1300.	317.5	.1750-.01	.8213	-5.000

\*\*\*TEST DATA\*\*\*

RUN NUMBER	Z/BV	X/C	T/C NO	H/HREF R=1.0	H/HREF R=0.9	TEST DATA***			H/H REF BTU/FT2SEC	QDOT BTU/FT2SEC	HW/HT	TW DEG. R	STN NO R=0.9
						H/HREF R=0.85	QREF BTU/FT2SEC	QDOT BTU/FT2SEC					
72	15900	.10000+00	265.00	.8907-.01	.1083	.1214	.57.55	.5.126	.4366	.577.6	.1319-.02		
72	.15900	.30000	266.00	.1957	.2377	.2662	.57.82	.11.31	.4340	.574.3	.2894-.02		
72	.15900	.70000	267.00	.3422-.01	.4148-.01	.4641-.01	.58.38	.1.998	.4287	.567.2	.5053-.03		
72	.29900	.00000	268.00	.3072	.3740	.4195	.57.23	.17.58	.4396	.581.7	.4553-.02		
72	.29900	.10000+00	269.00	.8480-.01	.1032	.1157	.57.36	.4.864	.4384	.580.0	.1256-.02		
72	.29900	.30000	270.00	.1194	.1451	.1626	.57.66	.6.882	.4356	.576.4	.1766-.02		
72	.29900	.50000	271.00	.1691	.2051	.2296	.58.16	.9.833	.4308	.570.1	.2498-.02		
72	.29900	.70000	272.00	.4261-.01	.5164-.01	.5777-.01	.58.45	.2.491	.4281	.566.4	.6291-.03		
72	.29900	.90000	273.00	.4344-.01	.5279-.01	.5914-.01	.57.73	.2.508	.4349	.575.4	.6428-.03		
72	.90500	.00000	286.00	.6106	.7447	.8365	.56.71	.34.63	.4446	.588.3	.9063-.02		
72	.90500	.10000+00	287.00	.2549	.3105	.3485	.57.03	.14.54	.4416	.584.3	.3780-.02		

DATE 24 JAN 76

ABC 3.5-178 1H3

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ESTATE PLANNING

RUN NUMBER	MACH	RN/L PER FT	PO PSIA	TO DEG. R	HO BTU/ LB.M	RS FT	RHOEL SLUG/ FT SEC	ALPHA DEG.
74	5.300	.5051+07	406.7	1295.	316.3	.1750-01	.8289	-3.000
75	5.300	.5017+07	406.9	1301.	317.8	.1750-01	.8270	-3.000
76	5.299	.5020+07	406.9	1299.	317.8	.1750-01	.8270	-3.000
77	5.299	.5020+07	406.9	1299.	317.8	.1750-01	.8270	-3.000